Ontario Universities:

Options and Futures

The Commission
on the Future Development
of the Universities of Ontario

December 1984

85-4632/

Ontario

The Commission on the
Future Development of the
Universities of Ontario

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December 12, 1984

The Honourable Bette Stephenson, M.D.
Minister
Ministry of Colleges and Universities
22nd Floor, Mowat Block
Queen's Park
Toronto, Ontario
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Madam:

We, the members of the Commission on the Future Development of the Universities of Ontario, appointed by Order in Council 145/84, dated January 20, 1984, now submit our report.

Edmund C. Bovey
Chairman

J. Fraser Mustard

Ronald L. Watts

TERMS OF REFERENCE

The Commission was formally established by the Lieutenant Governor in Council on January 20, 1984.

The Commission's terms of reference are as follows:

... To present to the Government a plan of action to better enable the universities of Ontario to adjust to changing social and economic conditions. The Commission should proceed on the basis that annual increases to the real public resources provided to the universities will reflect the desire to protect the integrity of the universities, to strengthen their ability to contribute to the intellectual, economic, social and cultural foundations of society, as well as to reflect the Government's policy of fiscal restraint and prudent management of public funds.

Without restricting the scope of the activities of the Commission, its review should include the following:

1. To develop an operational plan which, without reducing the number of universities in Ontario provides for more clearly defined, different and distinctive roles for the universities of Ontario in order to maintain and enhance the quality of university education by ensuring the appropriate concentration of academic strengths in areas of intellectual and social importance, including:
   - consideration of the designation of specific universities as centres of specialization with a view to preserving and developing further a calibre of teaching and research of national and international excellence,
   - consideration of the technological advances in the delivery of university education to geographically remote areas as well as the cost effectiveness that such technology may bring.
2. To address the issue of accessibility to university level education in the context of economic realities and in the context of a differentiated university structure including:
   - consideration of the importance of new patterns of credit study which embrace the concept of life long learning, including part-time and recurrent education;
   - consideration of the need for, and form of, general and specific entrance examinations to the Ontario university system;
   - consideration of the need for a process whereby adjustments can be regularly made to the resources allocated to professional programs such as education, law, medicine, dentistry, etc., and to the level of enrolment in these programs to respond to changing labour market requirements.
3. To address the method of distribution of university operating grants with a view to ensuring an adequate and measurable basis for public accountability while enabling the universities to remain autonomous in the governance of their affairs and ensuring that their responsibilities as institutions of higher education are discharged with integrity. The method of distribution should be sufficiently flexible to permit adjustments from time to time in response to the ongoing evolution of the new university structure and include consideration of:
   - appropriate ways to encourage faculty renewal and replacement;
   - funds necessary to facilitate faculty renewal and adjustments arising from the Commission's recommendations;
   - the appropriateness of program weights as one of the determining factors for funding distribution requirements;
   - the possible separation of research funding from instructional funding to ensure a harmonious blending of provincial and national objectives in research carried out in universities;
   - the distribution of provincial capital support and the role of private sector support in the maintenance and enhancement of the physical structures of the system;
   - appropriate tuition fee policies that reflect on the one hand accessibility policies recommended by the Commission and on the other equitable levels of student contribution with respect to the overall cost of the university system.
4. To consider the need for mechanisms for regulation, coordination and the provision of advice to the Government, and in particular to clarify the role of the Ontario Council on University Affairs in the context of a new and differentiated university structure.
5. To report its plan of action to the Minister of Colleges and Universities by November 15, 1984.

On April 19, 1984, the Minister wrote to the Chairman of the Commission on the matter of the proposed new "University of Northeastern Ontario."

The Minister noted that "the government remains committed to the restructuring of the university system in Northeastern Ontario." She added:

> "I believe, however, that, given the broad mandate of the Commission on the Future Development of the Universities of Ontario, it would be precipitous of the government to initiate any significant restructuring of Ontario's university system while the Commission's deliberations are in progress. Accordingly, I would request that the Commission consider the matter of this reorganization in the context of its overall mandate to present to the government a plan of action to better enable the universities of Ontario to adjust to changing social and economic conditions."

The Commission's terms of reference have consequently been extended to include the Minister's referral of this question.

TABLE OF CONTENTS

CHAIRMAN'S PREFACE 1

1.0 INTRODUCTION 2

1.1 The Commission's Approach 2
1.2 Areas of Concern Addressed 2
1.3 Structure of the Report 2

2.0 STRATEGY PROPOSED 3

2.1 Fundamental Objectives 3
2.2 General Assessment of Ontario Universities 3
2.3 Overall Strategy Proposed 5

3.0 POLICY ISSUES 6

3.1 Quality 6
3.1.1 Instruction 6
3.1.2 Research 6

3.2 Accessibility and Demand 8
3.2.1 Enrolment and Capacity 8
3.2.2 Policy on General Accessibility 8
3.2.3 Special Accessibility Issues 9
3.2.4 Demand for Graduates 10
3.2.5 Manpower Planning for the Professions 11

3.3 Adaptability 13

3.4 Balance and Differentiation 13
3.4.1 Balance 14
3.4.2 Differentiation 14
3.4.3 Process 15
3.4.4 Internal Governance 15

4.0 FINANCING 17

4.1 Financing Strategy 17
4.2 Phase I Financing 17
4.2.1 Modification of Current Financing Techniques 17
4.2.1.1 Differential Corridors 17
4.2.1.2 Incentives for Quality 19
4.2.1.3 Formula Incentives to Support Specific Public Policy Objectives 20
4.2.1.4 Extra-formula Grants to Support Specific Public Policy Objectives 21
4.2.1.5 Maintenance, Renovations and Alteration of Physical Plant 21
4.2.1.6 Tuition Fees and Student Aid 21

4.2.2 Renewal and Adjustment Fund 21
4.2.2.1 Faculty Renewal Funding 21
4.2.2.2 Institutional and Program Adjustment 22
4.2.2.3 Impact of Implementing the Charter of Rights 22

4.3 Phase II Financing 22
4.3.1 Education 24
4.3.1.1 Quality Enhancement 24
4.3.1.2 Accessibility Restoration 24
4.3.1.3 Tuition Fees and Student Aid 24
4.3.1.4 Regional Development Funding 25

4.3.2 Capital Requirements 26
4.3.3 Resource-Intensive Research 26
4.3.4 Encouraging Private Sector Support 27

5.0 INTER-INSTITUTIONAL PLANNING AND CO-ORDINATION 30
5.1. The Provincial Intermediary Body 30
5.1.1 The Basic Alternatives 30
5.1.2 Terms of Reference 30
5.1.3 Process 31
5.1.4 Membership 31
5.1.5 Secretariat 31
5.1.6 Advisory Committees 31
5.1.7 Status of the Intermediary Body 32
5.2 Northeastern Ontario 32
5.3 Northwestern Ontario 32
6.0 FEDERAL-PROVINCIAL CO-OPERATION 34
7.0 LIST OF RECOMMENDATIONS 36

APPENDICES

1. Differential Corridors 45
2. Renewal and Adjustment Fund 47
3. Fee Schedule 51
4. Income Contingent Repayment Loan Plan 53
5. Capital Considerations 55
6. University Capacity to Support Research 57
7. List of Briefs and Publications 59
8. Enrolment Graph 63
9. Graph of Research Levels 64

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CHAIRMAN'S PREFACE

The Commission in this report presents to the Government a strategic plan of action for the future development of the universities of Ontario.

Recognizing the importance of the stated policies of the Government, the aspirations and objectives of students, faculty, support staff and administrators and the future needs of society, as well as the current economic environment and the prospects for an improving economy in future years, the Commission proposes a number of recommendations. Some are to be implemented in the short term, and some in the slightly longer term with certain of the former to be modified or eliminated as the longer term recommendations are put into operation. The recommendations should be considered as a complete package for implementation.

Although the recommendations form a unified set, we suggest that there are some which, while not necessarily more important than others, are key to the strategic plan of action presented in this report. Among them are recommendations for enhancing institutional differentiation by a process of evolution within a competitive context rather than by formal designation and central control; an emphasis upon quality in teaching and research; a differential corridors plan to buffer enrolment variations so as to facilitate greater institutional flexibility; a faculty renewal and adjustment fund; a reasonable and gradual upward phasing of tuition fees conditional upon an income-based contingency loan repayment plan applying to these increases; new approaches to resource-intensive research funding; and a strengthened and reconstituted Ontario Council on University Affairs to serve as an intermediary body between government and the universities.

The complete list of recommendations including those mentioned above is the result of what the Commissioners learned during the hearings at each university in Ontario, the information provided in over 150 briefs received prior to the hearings, a thorough review of all previous commission reports and the judgment of the Commissioners. The visits to the campuses enabled the Commissioners to study at first hand the importance and sensitivity of such issues as tuition fees, quality of instruction, research, accessibility, adaptability and differentiation, as perceived and experienced by various members of the university community, many of whom understandably have differing views. For example, students naturally consider tuition fees in the context of ability to finance their attendance at university, while to administrators such revenues play a significant role in attaining balanced budgets. Or again, increased accessibility from the faculty's perspective can signal higher student-faculty ratios and consequent threats to quality of education, while for students the issue may be the very possibility of admission to university.

Many other examples could be given of the need to reconcile different perceptions and divergent interests among the various members of the university community. All such matters are important to the future development of the universities of Ontario. An over-riding concern must be the importance to the Province of Ontario of a first-rate university system. All of these concerns have been weighed most carefully by the Commission.

We have given our report the sub-title, "Options and Futures." Options in the sense of choices are obviously unavoidable. Yet we want to underline our conviction that the measures we have advocated to promote the well-being of our university system are also investment decisions. Like all such options, they may not be without risk; but we are confident that a sound partnership between Government and our universities will yield positive returns to our economy and society. Through enhanced differentiation, we have sought to ensure that each of the seventeen institutions included in our review will have its own distinctive future. In this sense, we are taking options on seventeen futures, in which the people of Ontario are the ultimate stakeholders.

The work of the Commission has been a rewarding experience for all of us. It is to be hoped that the results will indeed make an important contribution to the future development of the universities of Ontario. I would particularly like to acknowledge with grateful thanks the untiring work of my fellow Commissioners, Dr. Fraser Mustard and Dr. Ronald Watts, who have served with patience, good humour, and keen insight. The report would not have been possible without our superb staff, Dr. W.M. Sibley, Executive Director; Mr. Derek Jamieson, Research Director; Mary Kloosterman, Research Officer; Donna Papayanis, Executive Assistant, and other secretarial staff. To all of them, our deep appreciation.

1.0 INTRODUCTION

1.1 The Commission's Approach

The Commission's terms of reference request it "to present to the Government a plan of action to better enable the universities of Ontario to adjust to changing social and economic conditions. The Commission should proceed on the basis that annual increases to the real public resources provided to the universities will reflect the desire to protect the integrity of the universities, to strengthen their ability to contribute to the intellectual, economic, social and cultural foundations of society, as well as to reflect the Government's policy of fiscal restraint and prudent management of public funds."

As a result of the process it has followed, the Commission is convinced of the importance, indeed urgency, of ensuring strong and healthy universities to meet the needs of Ontario and Canada during the 1980's and 1990's. In a society marked by rapid economic, technological, social and cultural change, the dual functions of the universities — the development of human capital through higher education and the development of knowledge through research and scholarship — are essential. Moreover, given Ontario's central role within Canada, the contribution of Ontario's universities is vital to the development of Canada as a whole.

1.2 Areas of Concern Addressed

In developing our analysis, we have, as outlined in our discussion paper, *Ontario Universities 1984: Issues and Alternatives*, focussed on four major concerns — quality, accessibility, adaptability, and balance and differentiation.[1] The need to maintain and enhance quality, both in instruction and research, we took to be a matter of the highest priority for both universities and government. Under the topic of accessibility, we examined the probable future course of enrolment, the general standards of eligibility for admission to university, accessibility to and demand for professional programs, and various specific accessibility concerns relating to groups (for example, Franco-Ontarians and residents in Northern Ontario) whose present participation rate is so low as to call for special remedial action. An important feature of our inquiries into adaptability related to the concept of what we initially termed an "Adjustment Fund," directed principally to the amelioration of some of the undesirable effects of the current age profile of university faculty. Our fourth concern lay in the area of stimulating greater role diffentiation among our universities, while preserving a proper balance across the system. The Commission has sought to arrive at the best means of dealing with these concerns by proposing new arrangements for funding and for inter-institutional planning and co-ordination.

1.3 Structure of the Report

Within the time available the Commission has not attempted to deal with every detail raised in the briefs and hearings, but rather has concentrated upon mapping out a general strategic approach designed to deal with the major issues and to establish appropriate mechanisms to deal with remaining problems.

Following this introduction, Section 2.0 of this report deals with the overall strategy proposed by the Commission for the future development of the universities of Ontario. Section 3.0 reviews a range of policy issues relating to quality, accessibility and demand, adaptability, and balance and differentiation. These two sections set the stage for sections 4.0 and 5.0

Section 4.0 deals with financing arrangements setting forth a two phased approach. Phase 1 sets out the immediate actions to be taken until the further steps for Phase 2 are developed and implemented.

Section 5.0 covers the issue of inter-institutional planning and co-ordination, in particular advocating immediate steps (coincident with Phase I of the financing arrangements) to create a new intermediary body (which we shall refer to throughout the report as the IMB). It also deals with the special issue of the reorganization of the university system in Northeastern Ontario by proposing the establishment of a Northeastern University Committee. Consideration is also given to a Northwestern University Committee. The main text of the report concludes with Section 6.0 on federal-provincial co-operation relating to universities. The Commission's recommendations are listed in Section 7.0. Nine appendices follow.

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1. This paper was published in June 1984, together with a companion volume of *Background Data*.

2.0 STRATEGY PROPOSED

2.1 Fundamental Objectives

In 1967 the then Minister of University Affairs, the Honourable William Davis, set forth the following objectives for the university system:

- the provision of skills and knowledge that will allow graduates to play a vital role in our society;
- the promotion of the powers of the mind so as to create men and women with love for learning and the motivation to seek new knowledge throughout their lifetimes;
- the search for truth and new understanding beyond the frontiers of present knowledge;
- the transmission of our common culture both to its student body and to the wider community;
- the provision of graduates whose attitudes are consistent with the free society in which we live.

The Commission on Post-Secondary Education in Ontario (COPSEO) did not propose new objectives for the universities but made important recommendations for improving accessibility for women, native peoples, Franco-Ontarians and other minority groups, for diversity among institutions for post-secondary education, for restructuring university-government relations, for separating funding for research from funding for instruction, and for public financing arrangements that would strike a balance between equity and quality.[2]

The Ontario Council on University Affairs (OCUA) in its report, *The Ontario University System: A Statement of Issues* (1978) restated the objectives for the Ontario universities in the following form:

- to develop a more educated populace;
- to educate and train people for the professions;
- to provide study at the highest intellectual level;
- to conduct basic and applied research including development and evaluation;
- to provide service to the community.

These objectives, which were subsequently adopted by the Ontario Government, were endorsed and elaborated upon in both the Preliminary and Final Reports of the Committee on the Future Role of the Universities of Ontario (CFRUO) (1981).

The Commission takes these statements as valid fundamental objectives for our universities for the remainder of the 1980's and 1990's and our report sets forth an operational strategy for their realization, having due regard for available resources.

2.2 General Assessment of Ontario Universities

In the course of our studies, hearings, and deliberations our impressions (outlined in the June, 1984 discussion paper) concerning the very real achievements of the Ontario universities over the last two decades in broadening access to higher education, in the dramatic growth of research activity, in the development of professional and graduate programs, and in the increasingly marked differentiation and diversity among institutions have been confirmed.

The universities, under conditions which at times have been difficult, have clearly broadened access to higher education. Between 1962-63 and 1982-83 total full-time enrolment increased from 39,000 students to 179,000, a more than four-fold increase, while part-time enrolment rose from 14,000 to 105,000, a seven-fold increase. Consequently, the participation rate (total full-time university enrolment expressed as a percentage of the traditional "university age" population aged 18-24) appeared at 15.6 in 1983 (the latest comparative figure available) to be the highest in Canada and substantially above the Canadian average of 13.5. Furthermore, the proportion of non-traditional students in the age group 25 and over has increased enormously: by 1982-83 this group had come to represent 16 per cent of all full-time and 78 per cent of all part-time students in Ontario universities.

As we noted in our discussion paper, growth in research activity has been even more dramatic. Research funding from all sources which amounted to $9.4 million in 1961-62 had by 1982 reached approximately $274 million. When corrected for inflation, this is more than an eight-fold increase. In 1982, Ontario universities, in a province with approximately 35 per cent of the total Canadian population, accounted for 41 per cent of all sponsored university research. Research in our universities has been marked not only by quantity but by quality, as illustrated by impressive discoveries of fundamental importance over a wide array of fields and the technology that has evolved from these discoveries.

In the area of professional and graduate programs a broad range has been developed, as enumerated in Tables 2A and 2B in Part I and Tables 1 and 2 in Part II of the *Background Data* volume published with our June discussion paper. Opportunities both for professional education and for graduate studies are now extensive.

In addition, as the report of the CFRUO documents and as we found in our travels, Ontario

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2. The report of this Commission (published in 1972 by the Ministry of Government Services) appeared under the title of *The Learning Society*.

universities provide an extensive array of services to their communities, ranging from the purely cultural to delivery of highly specialized scientific and technological advice.

A feature which particularly impressed the members of the Commission as a result of the responses in the institutional briefs to the question in the Preface of our June discussion paper and of the hearings held at each university is the marked differentiation and diversity in approaches to undergraduate education, range of professional and graduate programs and research intensity that have developed, particularly within recent years, among Ontario universities. This feature will be reviewed more fully in section 3.4.2 below, but we note here in passing that it has already reached a significant degree.

It is clear that the considerable measure of autonomy which Ontario universities have enjoyed by comparison with publicly funded institutions in most other jurisdictions has been a major factor in their vitality and achievement. The Commission was also struck by evidence, particularly outside Metropolitan Toronto, of a wide measure of public and community support for the work of the universities.

Nevertheless, it would be wrong to convey the impression that all is well. It is not, as the very appointment of this Commission testifies. The Commission has been convinced that the factors identified in our June discussion paper as contributing to stress within the universities are both real and marked.

In our discussion paper we listed as factors influencing the universities the following:

"1) the slower growth in the per capita wealth of the country, which makes public funding of new projects or expansion of existing programs difficult;
2) the increasing demand for specialized research and development based within the university system and for highly qualified manpower in special areas;
3) the need to adjust a faculty base developed during a period of expansion, to a more stable base in the number of students, together with measures which will take into account the age distribution of faculties in relation to present and future needs;
4) the need for funding arrangements which will more adequately reflect the different functions of the universities;
5) the attempt to meet faculty expectations and appropriately reward faculty in a period of change and straitened resources; and
6) the cardinal role of universities in the development of new knowledge in scientific and technological fields and in relating this development to its impact upon society and human values. Paradoxically, our universities are being required to respond to changes which in large part they themselves originally generated."[3]

In our hearings, issues relating to the adequacy of the funding level and the failure of the funding allocative mechanism to take sufficient account of the diversity among institutions were raised repeatedly. While Ontario's laudable effort to broaden access to higher education has clearly achieved the highest participation rate among the provinces of Canada, concerns were frequently raised, both by those in the universities and by some from the private sector, that quality both in instruction and research appears threatened, that adaptability (so important in a period of rapid social change requiring responsiveness) has been impeded, and that further institutional differentiation and improvement in balance has been limited by the slow growth in the economy and by current funding arrangements. Also requiring particular attention are the worsening deficiencies in support of the indirect costs of resource-intensive research in such areas as the experimental sciences and the deteriorating state of physical facilities and of teaching and research equipment. There is also an urgent need for improvement in the arrangements facilitating inter-institutional planning and co-ordination.

In the view of the Commission, these issues will need to be dealt with in a positive way if the universities are to be responsive to the needs of society and the economy. Among the challenges and opportunities which face our universities are: the rapid development of new technologies and particularly the pervasive impact of the information and communications revolution and the advances in biotechnology; the growing awareness within governments and the private sector of the importance of the relationship between basic and applied research, especially that related to national strategic needs; the shrinking nature of the world, which increases the importance of international perspectives in all academic programs; the increasing public expectation that in the use of knowledge within society greater consideration will be given to the impacts of technology not only on the economy but more broadly upon society, culture and human personal needs, thus pointing to important developing roles for the humanities and social sciences; the demands of non-traditional students such as adult learners, native peoples and other groups as yet inadequately served; and the importance for undergraduate curricula of the movement to bilingualism and the emphasis upon the multi-cultural diversity of Canadian society.

At the same time, vital as responsiveness to such challenges will be, it is equally important that the universities not lose sight of their fundamental traditional roles of providing a higher education for the intellectual development of their individual students and of contributing through basic research and scholarship to the generation of new knowledge. In the words of Northrop Frye: "The university has to

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3. *Ontario Universities 1984: Issues and Alternatives*, p. 5.

be a mixture of teaching and research functions, and the two functions have constantly to update each other."

2.3 Overall Strategy Proposed

The fundamental objectives and the assessment outlined in the preceding sections provide the context for the overall strategy which the Commission proposes for the development of the Ontario universities during the 1980's and 1990's.

The first element in the proposed strategy is a recognition of the vital importance of higher education, in an increasingly knowledge-based society and international economy, as an investment in the development of valuable human capital. Secondly, and of equal importance in such a context, is university research and scholarship as an investment in the development of knowledge which is a critical element in the growth and vigour of society. Universities have become an integral component of the modern knowledge-based technology-driven society and economy. As one respondent to the Commission put it: "University education has become too important to leave up to the universities. Our national well-being is at stake."

We cite at this point a quotation from the thoughtful brief from the Ontario Federation of Labour (OFL). As the OFL notes:

> *"The university plays a crucial role in the development of our economic and social system. It acts as a major training centre for the manpower requirements of the economy and as such it must recognize its place in overall human resource development priorities. The research capacity of the university generates the knowledge which allows society to continue to produce on or near the cutting edges of modern technology and in effective competition with producers in other countries. Therefore, in both research and education/training, the university is involved in a symbiotic relationship with the economy in which it finds itself. Insufficient teaching and research weakens the economy and thus curtails the pursuit of knowledge for knowledge's sake. The obverse is of course equally true. It is no coincidence that the amazing expansion of the university system over the past twenty-five years coincided with record economic growth. From our perspective, it would make for a healthier environment if more members of the university community recognized this fundamental relationship."*

The first two components of the suggested strategy therefore require a genuine recognition by governments, both provincial and federal, the private sector and the universities of the need to orient policies and support for the universities in relation to their vital roles in higher education and research.

The third element in the proposed strategy is a greater emphasis in the period ahead upon excellence and adaptability. The urgency of reaching an internationally competitive level of excellence in higher education and research, together with adaptability to facilitate responsiveness to the needs of a rapidly changing society, set against the relatively broad access already achieved, requires a strategy which in the immediate future gives priority to quality and adaptability over the further enhancement of accessibility. When priorities are related to the availability of resources this emphasis is especially important.

The fourth element is the encouragement of further differentiation in the roles of the Ontario universities through evolution within a competitive context, influenced by incentives, in order to ensure appropriate concentrations of academic strengths in areas of intellectual and social importance and diversity of choice for students.

A fifth element in the strategy is the recognition that, despite the praiseworthy achievement in Ontario of the highest university participation rate among the provinces of Canada and the immediate need to give higher priority to excellence and adaptability within our universities, there do remain groups for whom the enhancement of accessibility is desirable. As a longer-run objective, efforts should be made to meet more adequately the needs of those particular groups whose participation in higher education still remains below the norm in Ontario.

The sixth component calls for encouragement of closer linkages with, and increased support from, the private sector for universities. The contribution that universities can make to the private sector through the highly educated graduates they produce and the research and scholarship they perform, is itself dependent upon the level of support they receive from that sector. Important as governmental support for the universities is, only if private sector support from corporations, alumni and individuals is significantly increased and is applied to university operating expenditures as well as research and capital will we develop universities that are competitive with the world's best. Equally important, the development of closer and more effective linkages between corporations and universities is essential to facilitate not only the production of more technology as a direct result of new knowledge but its diffusion and application within industry.

In order to implement the strategic thrusts identified above, the seventh element in the strategy entails a revision of the arrangements for public funding of universities, relating this more closely to the range of functions performed, and an introduction of new approaches to inter-institutional planning and co-ordination.

In the sections that follow the Commission elaborates upon this strategy. For the text of our basic recommendation, see Recommendation 2 (p. 36) in Section 7.0.

3.0 POLICY ISSUES

3.1 Quality

In briefs and hearings the maintenance of quality both in instruction and research emerged as a prime and universal concern.

3.1.1 *Instruction*

Representatives of labour and business emphasized the importance of high standards in instruction in undergraduate and professional programs and in graduate studies. Indeed, as one senior businessman put it: "I want the people of Ontario to understand that there is a strong interconnection between the growth and vitality of this economy and excellence in our university system." The emphasis upon the importance of maintaining and improving the quality of the universities and the graduates they produce was a dominant theme in the presentations of those from the non-academic sector who submitted their views. While some were critical of the universities or expressed reservations, the majority in fact held generally favourable views about the current quality and performance of the universities. Nevertheless, the importance of first class universities for future Canadian development and progress was repeatedly emphasized. This emphasis and concern was reinforced by the views expressed by students, faculty and university officers.

Quality itself in relation to higher education has by its very nature a largely subjective character and is not readily quantified. The Commission was provided, however, with extensive and well documented information on the deterioration of those factors which are often taken to contribute to the quality of education: operating expenditures per student, student-faculty ratios, faculty workloads, class sizes, and scale of library acquisitions. Deterioration and obsolescence of equipment and inadequate maintenance of physical plant were not only reported but displayed. A particular concern identified in some of the briefs from the corporate sector related to the adequacy of resources available for engineering faculties. While, as input measures, none of these factors actually measures the quality of education itself, the Commission has come to the conclusion that the foundation for continued maintenance of quality is in jeopardy, and that emphasis upon the quality of the educational programs within our universities must be given the highest priority. Many of the recommendations in our report are therefore directed towards supporting this priority for excellence.

For assessing the quality of programs in universities, particularly graduate programs, there are several methods already in operation. The appraisal technique, currently administered by the Ontario Council on Graduate Studies (OCGS) on behalf of the Council of Ontario Universities (COU) establishes minimum standards. The subsequent approval for public funding of graduate programs, particularly at the doctoral level, should not be heavily dependent upon anticipated enrolment. What is needed is outstanding programs not large numbers of doctoral graduates. A second mechanism to evaluate quality, which applies only by proxy to instructional programs but which does evaluate quality of research effectively, and therefore by extension also has some relevance to evaluation of doctoral programs, is the national peer review function of research proposals as practiced by the federal agencies, i.e., the Natural Sciences and Engineering Research Council (NSERC), the Medical Research Council (MRC) and the Social Sciences and Humanities Research Council (SSHRC). These agencies have a good track record for identifying well qualified researchers and provide a national basis for the judgment of quality. In the proposals which the Commission advances later in the report the importance which we attach to these mechanisms for assessing quality will become apparent.

3.1.2 *Research*

One area where the emphasis upon excellence is particularly important is in university research. As noted in Section 2.2, growth in research in Ontario universities over the past two decades has considerably outpaced even the substantial increase in student numbers. Nevertheless, analysis of the capacity of our major universities to support some of the rapidly moving research fields (particularly, but not exclusively, in the experimental sciences), when compared to leading institutions in other countries, indicates the urgent need for major reinforcement in this area in Ontario. A characteristic of many of these research fields is their heavy demand on highly qualified manpower, physical facilities, sophisticated equipment and efficient information retrieval systems and their separation from education in terms of resource requirements. We refer to this type of research as "resource-intensive research" to distinguish it from the university research and scholarship which must accompany all disciplines and which we refer to as the "core university research function."

The research conducted in universities not only provides highly qualified manpower, but to a greater degree than in the past, universities in Canada as in other western industrialized countries have assumed a major responsibility for the nation's efforts in research. Their research yields fundamental insights that are not specifically tied to application but which lay the essential intellectual base for future scientific, social, technological and economic advances. The knowledge-intensive industries have increasingly been looking to universities as the sources of new knowledge to serve their particular interests, and are seeking much closer links with academic centres of research. Such a tendency is

especially apparent in the United States, where in several centres (e.g., in the area of Boston, in California's "Silicon Valley," in North Carolina, Texas and elsewhere) synergies have developed between leading research universities and the knowledge-intensive industries which have sprung up in close proximity to and have entered into vigorous interaction with them. In this domain there are constructive "push-pull" relationships between basic and applied research. Consequently, in many states and communities in the United States the need to strengthen their research-intensive universities has become a key objective in their goal of ensuring the development of new knowledge-based industries in their region. In our own province, the University of Waterloo in the applied sector is exhibiting impressive progress in such directions.

In the opinion of the Canadian Manufacturers' Association (CMA) "contract research is perhaps most important in bridging the gap between 'town' and 'gown'. It increases the interactions between personnel on both sides and inevitably enhances the understanding and knowledge of all parties involved. As understanding grows, there will be increased interest in developing additional relationships in other areas."[4]

Among the leaders of business, industry and labour with whom the Commission took counsel, and also among the heads of our research-intensive universities, there is an increasing sense of the urgent need to enhance the quality and enlarge the scope and significance of our Canadian research activity, if we are to become and remain competitive at both basic and applied research levels in those fields undergoing rapid development. The Commission recognizes that Canada cannot hope to compete effectively across the entire spectrum of research and development. We can, however, if we make the requisite effort, be competitive within strategically chosen sectors of research. By so doing, individual researchers in our institutions become participants in the intellectual interaction that occurs among the vanguard in a given discipline. Possession of such advanced knowledge in fields undergoing rapid change is of critical importance in relation to developments involving the transfer of knowledge to application. The time frame for such transfer has become more and more compressed: the speed with which new discoveries can be applied becomes of paramount concern to a wide variety of new enterprises throughout society.

In the course of our investigations and our hearings, the Commission has become convinced that the research funding arrangements under which Ontario universities operate are no longer adequate. They were not designed to meet the requirements of the kind of research development which has taken place over the last decade and which shows signs of further acceleration. As a consequence, the capacity of our universities to support research has failed to keep pace. Indeed, on the national scene, Ontario lags seriously in this respect behind other jurisdictions. With respect to certain basic infrastructure costs of research (such, for example, as those relating to the provision of technical support services used in common by a number of faculty researchers and their associates) a recent NSERC Task Force on Research Infrastructure reports that the ratios of such support per million dollars of sponsored research funding are fairly uniform from region to region in Canada — with the single exception of Ontario where this ratio, in relation to NSERC projects and programs, is only one-half that obtaining in the rest of the country. Furthermore, the proportion of research infrastructure staff funded by universities, as distinct from external research grants, is lower in Ontario than in any other region.

Estimates have been made of more general erosion of capacity to support research, both in Canada as a whole and in Ontario. According to one such calculation (exhibited in Appendix 6) in 1982-83 Ontario universities retained only 60% of the 1970 capacity to support sponsored research. One might well inquire how, if such is the case, Ontario universities have been able to expand their research output. One answer we were frequently given during our hearings is that research is being sustained at its present level only by the siphoning off of resources from other sectors within those universities which are heavily engaged in research — in particular, from the area of general undergraduate education. The opinion was also expressed that unduly heavy loads are being carried by many faculty, of a weight which they cannot be expected to sustain indefinitely.

What measures are available to remedy this situation? At one level, the Commission considers it essential to introduce some degree of "separation of research from instructional funding." We want to make clear, however, that we are not endorsing in any way a general divorce of the research activity from that directed to the educational function. What we have termed the "core research function" must be present in *any* institution worthy to be called a university; and furthermore, it must co-exist with the educational enterprise across *all* disciplines. Scholarly inquiry, critical appraisal, and weighing of evidence, for instance, are essential to every field of academic endeavour.

Rather, our concern is directed to ensuring that there be much more adequate recognition of the heavy (and rapidly increasing) costs associated with "resource-intensive research." Research in these sectors has been growing and will continue to grow in ways which no longer bear their former relationships to the educational function. There no longer exists a uniform, coherent relationship

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4. Report of the CMA Task Force on Business-Education Relations in Canada.

between the demands of research in these disciplines and the numbers of students involved in undergraduate and graduate programs. Accordingly, new funding arrangements which somewhat loosen the present formula coupling of enrolment and funding are part of the answer, and are developed in Section 4.0 of this report. Over the longer term, and on the assumption of increased funding, either from provincial or federal sources or both, the most effective steps to restore research capacity to levels compatible with the needs of a developed country will consist in funding measures that will take into account the infrastructure, overhead and capital costs of research together with some adjustments to recognize the needed expansion in activity of additional faculty committed to research.

All these improvements will be needed if the nation and the province are to compete with the requisite degree of effectiveness in the international arena. Such expenditures should be considered as *investments*, required to support the intermediate and longer term social and economic development of Canada and of Ontario. They will enable us to meet the demands of that "new era, with new challenges and new needs," of which the Minister spoke in her announcement of December, 1983 to the Ontario Legislature of the establishment of this Commission.[5]

3.2 Accessibility and Demand

In considering the interrelated issues of appropriate access to universities and demand for places and graduates, the Commission examined aspects relating to the expected demand for and appropriate accessibility to general education, to professional programs, and to graduate programs, as well as the improvement of access for specific groups.

3.2.1 *Enrolment and Capacity*

Policy in this complex area must take into account several major factual considerations:

- Ontario currently has the highest participation rate of any Canadian jurisdiction.
- The bulk of the increase in student numbers over the period 1961 to the present is largely due to the increase in participation rates of women.
- A special study conducted under the joint auspices of the Commission, the Council of Ontario Universities (COU) and the Ministry of Colleges and Universities (MCU) indicated that fewer than 3% of the total pool of qualified Grade 13 applicants failed to receive an offer of admission from an Ontario university in September, 1983.
- The future enrolment picture we are facing is very different from that addressed by CFRUO. 1983-84 registrations were at an all-time high, and little slippage is now forecast for the next few years.
- In particular, the system must be ready to cope with the impact of the "double cohort," which arises from the compression of the minimum five-year secondary school graduation requirement into four, and which will result in a surge of enrolment in the period 1989-90 to 1992-93, with a peak in 1990-91 of total enrolment some 8% above that in 1983-84. The graph on page 63 (taken from the latest work of the COU Committee on Enrolment Statistics and Projections) indicates the Commission's view of expected enrolment up to and inclusive of this period.

3.2.2 *Policy on General Accessibility*

Basic government policy, established two decades ago, has been to ensure that no student who has the requisite capacity will be deprived of the opportunity to find a place in some program of study in some university in Ontario, but not necessarily in the program or university of first choice. We believe that as a longer-run strategic objective this policy remains valid both to develop the potential for self-fulfillment of the citizens of Ontario and to make available to the full the human resources which Canadian society will need in an increasingly knowledge-based world. At the same time, within the available financial resources this objective has to be balanced against the priority for quality, since access to programs which lack quality is an empty right of access indeed, and does little to develop our human resources to the competitive level now required.

Furthermore, in determining eligibility for access, the Commission has concluded, in the interests of both quality and equity, that admissions direct from secondary school should be based on a combination of teachers' marks and school reports and of province-wide admissions examinations assessing achievement in at least language (English or français) and mathematics. While many of the school and teachers' organizations who appeared before us opposed reliance solely upon province-wide

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5. A special study carried out for the Commission by the IDEA Corporation of Ontario shows that in comparison with a selected set of prestigious research universities in the United States, our leading research institutions in Ontario are rendering good "value for money" in respect of their research enterprise. That is, they are in this sense *efficient*. However, the study also indicates that their contributions are by no means of comparable scope nor of the significant *weight* required to make us truly *effective* in relation to the challenges we face. The clear message which comes from this material as well as from recent sessions of the Royal Commission on the Economic Union and Development Prospects for Canada is the need to create concentrations of research activity in certain selected fields, particularly those which require cross-disciplinary activity and a critical mass of manpower for effective pursuit of research targets.

admissions examinations (as being no more reliable predictors of success at university than teachers' marks), many from the private sector and from the university community favoured such examinations as ensuring greater reliability and equity standards. Perceptions of inequities arising from admissions to universities based on varied school standards lay at the heart of much of this latter pressure. It seems to us that basing admissions on a combination of 50% for such examinations and 50% for teachers' marks and school reports concerning motivation and relevant extra-curricular activities, would provide the soundest and most equitable foundation upon which universities might make their admissions judgments. Of course, in the case of mature students, currently existing alternative arrangements for admission will need to be maintained.

3.2.3 *Special Accessibility Issues*

The Commission was most strongly impressed by the "regional dimension" of accessibility which was raised at a number of hearings. Many of the universities outside the major population centres, for example, emphasized this dimension, and in so doing were strongly supported by community representatives. They drew our attention to the marked demand for part-time and continuing education in their local constituencies, and the increased trends towards greater participation by women. Such students (as distinguished from full-time students in the traditional "university age group") are not geographically mobile: either they are served by their local universities or they must, in most cases, forego the privileges of further education. The significance of the social, cultural and economic contributions of these universities to their communities was also forcefully underlined.

Equally important in an era of rapid advances in knowledge is the provision by universities of academic programs enabling those in the professions to improve their qualifications and keep abreast of new developments. We foresee a continuing increase in the demand for such programs in professional continuing education.

Accessibility policies for the 1980's and 1990's must also address a variety of special concerns. In so far as additional resources can be made available, among areas where there remains room for improvement of accessibility are: the increasing number of students aged over 25; women, particularly in those fields where their participation rate remains significantly below that of men; those who live in remote areas such as Northern Ontario; native people; persons from economically and socially disadvantaged backgrounds; and the handicapped.

Our attention was drawn particularly to the needs for expansion in the opportunities for bilingual education for two distinctly different groups: (1) for Franco-Ontarians to enable them to study in their mother tongue; and (2) for the increasing number of students who will be proceeding to university from French immersion programs in the Ontario schools. In our view responding effectively to these needs is of fundamental importance to the future of Canada.

In the case of the Franco-Ontarians, we were provided with preliminary information from a major study currently under way, entitled "Education et Besoins des Franco-Ontariens," under contract to the Ministry of Education and Colleges and Universities. This information suggests that there is a serious unresolved problem of Franco-Ontarian access to university education: Franco-Ontarian participation rates in university studies appear to be less than half those of non-francophones, and the lowest participation by Franco-Ontarians is in just those areas of study perceived to be most valuable in terms of the future economic growth and development of the country. The study suggests that the main causal factor for this situation is the limited opportunities for instruction in French and that unless there is an expansion in the fields of study in French available in Ontario's bilingual universities, the situation is unlikely to improve.

Any solution to this problem will clearly require direct financial incentives and stimuli as well as considerable additional funding. At our hearings, we were told that the recent improvement in the funding for programs in the bilingual universities, implemented in 1983/84, adequately met the full cost of the programs now being offered in French, but there remains the need for expansion in the availability of such programs, especially in professional fields and in areas of study related to economic development. Given the likelihood that the provision of funds and the development of such courses will require a period of some time, we foresee the need, in the meantime, of some provision whereby appropriate arrangements are made to enable Franco-Ontarians to pursue study in programs unavailable in Ontario in the French language universities elsewhere in Canada.

In its brief, the University of Ottawa set forth clearly as a fundamental feature of its mission its bilingual and bicultural character. Laurentian University and its affiliates, and Glendon College at York University also play important roles in offering education in bilingual programs for their regions. But in our view there is a clear need for co-ordination in the offering of more specialized programs and in the attack upon the general issue of improving Franco-Ontarian participation. Currently, it would appear that the territorial imperatives of these institutions are hampering their collaboration and the development of inter-institutional networks. We suggest there is a need for two mechanisms: (1) a strong formal co-ordinating committee composed of representatives from those universities involved in offering bilingual higher education in a major way in order to facilitate collaboration among these universities;

(2) a committee, including appropriate representatives of the Franco-Ontarian community, which would be attached to the province-wide inter-institutional planning and co-ordinating body proposed in Section 5.0 of our report, to advise that body on appropriate province-wide policies relating to bilingual higher education.

A second aspect of bilingual education relates to the needs of the anglophone graduates from French immersion programs in Ontario schools. These are beginning to arrive in increasing numbers at the primarily English-speaking universities, and the need to provide these students with the opportunity to maintain their facility in the second language was raised by a number of university representatives and by the Canadian Parents for French.

Information provided to us indicates that in 1984-85, in addition to the bilingual universities previously identified, Brock, Queen's, Toronto and Windsor are offering in French some courses or sections of courses in subjects other than French Language and Literature, and that several other universities are planning to do so. Four other institutions, Carleton, Guelph, Ryerson and Waterloo offer some courses in French for special purposes.

We suggest that among the steps which the primarily English-speaking universities might adopt to meet this need are: the appointment of a French language co-ordinator, as Queen's has done, or a Special Advisor on Bilingualism to the President, as at the University of Toronto; the provision in various disciplines of a range of courses or sections of courses taught in French; the appointment of visiting professors; the encouragement of exchange years for students with Quebec universities; the permission for examinations to be written in French; and the setting up of social functions in French. The Council of Ontario Universities (COU) proposal for an Ontario Inter-University Centre for French Language Studies based in Ottawa to encourage innovative teaching in French as a second language would help Ontario universities to prepare to meet this general need. But all of these steps have some costs associated with them. Consequently, the degree to which they can be implemented will depend upon the availability of resources, either through reallocation within existing funding or by supplementary funding. Given the range of urgent claims upon current funding that we have identified, the scope here may be somewhat limited.

Another specific issue relating to accessibility is the availability of distance education. Our terms of reference specifically include "consideration of technological advances in delivery of university education to geographically remote areas as well as the cost effectiveness that such technology may bring." Discussions with universities engaged in various forms of distance education and with individuals in the private sector who have been closely involved in the information technology revolution indicate that there is no doubt that the impact of this revolution for instruction will ultimately be massive and widespread, but that its application to education is still at a very early, primitive and uncertain stage. Those with knowledge and experience in this field emphasize, moreover, that the application of such technology is costly and is not a substitute for more traditional forms of delivery of educational services.

Currently, there is a plethora of distance education programs offered by Ontario universities, ranging from correspondence, radio and television programs to those involving the sophisticated use of telecommunications and of computers for interactive learning. Given the costliness of some of these programs, and their variety, it would seem that considerable benefit would attend closer collaboration and co-ordination in their provision. Experience in the United States suggests that voluntary consortia for such purposes are often unstable, and we therefore suggest that this would be an appropriate area for the inter-institutional co-ordinating and planning body proposed in Section 5.0 to investigate and monitor with a view to encouraging effective co-ordination among the universities involved.

Although not specifically identified in our terms of reference, an issue which was repeatedly raised at our hearings, and particularly by student groups, was the dramatic decline in registration of international students resulting from the recent sharp increases in the differential fees charged to such students. It would appear that the intake of foreign visa students into the first year of undergraduate studies dropped by about one-quarter in each of 1983 and 1984. Concerns were expressed not only in terms of the need to assist students from third world countries, but also about the potential loss in the quality of the educational experience for Canadian students within Ontario universities if the international element in their student bodies were to continue to diminish sharply. Although much less frequently raised in the hearings, there was virtually unanimous support for the present practice in Ontario of not levying differential fees on the residents of other provinces, a view with which we strongly concur.

3.2.4 *The Demand for Graduates*

The employment outlook for university graduates, as indicated by the Ontario Manpower Commission's recently issued *Labour Market Outlook for Ontario: 1984-88*, appears to be promising. Graduates capable of working at the forefront of knowledge-intensive areas, such as in advanced technology and in the social and health sciences, will be crucial to the long term health of Ontario and of Canada, and universities must meet this need.

Nevertheless, the majority of employment opportunities will not require specialization in high technology, but rather graduates who throughout their lifetimes will be adaptable to changing

opportunities, who will understand their own specialties within a wider context, and who will be able to utilize new developments within their own fields. Representatives of business and labour frequently emphasized the need for graduates who have communications skills, who possess computer and technological literacy in the sense of understanding the wider application of computers and technology, and who are specialists able to transform themselves into functional generalists.

The value of studies in the liberal arts and sciences as a basis for developing capacity for critical thinking, leadership and adaptability was often raised in our hearings at the universities. We have also noted a recent publication which reports the results of several cross-sectional and longitudinal studies of students at liberal arts colleges and other postsecondary institutions in the United States, and which demonstrates that liberal arts education has beneficial effects not produced by any other kind of education. A significant feature of their findings is the conclusion that this form of education is most effective in the setting typified by the residential liberal arts college.[6]

3.2.5 *Manpower Planning for the Professions*

The terms of reference for the Commission include "consideration of the need for a process whereby adjustments can be regularly made to the resources allocated to professional programs such as education, law, medicine, dentistry, etc., and to the level of enrolment in these programs to respond to changing labour market requirements."

With respect to the problem of estimating future labour market demands, the Commission was not at all surprised to hear of the many difficulties encountered in trying to make accurate projections of future "manpower" or human resource requirements for the professions, and of case histories citing rather dramatic past failures in this regard. It is especially hazardous to make reliable predictions of demand at a time of such rapid change as we are now experiencing in our economy and in society generally; and it is apparent that if substantial progress is to be made in the accuracy of manpower forecasting, it will require the development of much more powerful and sophisticated techniques than those we currently possess.

Nevertheless, the fact that present instruments are admittedly inadequate does not mean that we should in the meantime abandon the task completely. The university system will have to rely on the best estimates that can be made, and play its part in ensuring that these are made widely known to students, universities and the community at large. The Commission concludes that in view of the difficulties and risks involved in detailed manpower planning, the principal reliance should be on market forces, supplemented by financial incentives in public funding allocations, where indications of increased or decreased demand are unmistakable and likely to be enduring.

In the matter of fitting resource allocation to changing needs, the Commission suggests (see Recommendation 27 below) a mechanism for selective funding adjustments designed either to encourage or discourage enrolment changes in circumstances where the need for reallocation is clear, compelling and of more than a short-run nature. Implementation of such policies (after approval of Government) should be, in our view, a responsibility of the proposed intermediary body (IMB).

Regarding the areas of concern indicated in our terms of reference, the Commission provides the following assessments, which are somewhat general and also tentative.

In the area of medicine and allied health fields, provision of training places will presumably continue to be decided by specific target forecasting, utilizing appropriate indicators of need and service and within the framework of operative government policies. In the opinion of the Commission, the conclusions and recommendations of the Ontario Council of Health, reached after very thorough inquiry and debate, and filed with the government as recently as 1983, remain valid for at least the immediate future.[7]

With respect to dentistry, the Commission was not apprised of any serious concerns, and has taken note of the recent appreciable reduction in intake at the University of Western Ontario.

In the field of nursing, the brief from the Registered Nurses' Association of Ontario (RNAO) expressed the view that increasing numbers of university-trained nurses at baccalaureate, master's and doctoral levels are necessary if the profession is to meet the technological and societal changes facing both the profession and the health care system as a whole. In the opinion of the RNAO, demand for places in existing programs is not likely to decline, and provision of adequate facilities for part-time study to maintain clinical competence and to upgrade the academic qualifications of practicing nurses was also emphasized. Finally, the RNAO brief called for the introduction of programs at the doctoral level in Ontario. The Commission repeats its caveat that to the degree that overall system funding is not increased, the introduction of new programs will be possible only at the cost of displacement of existing programs elsewhere in the system. Any thrusts for increased activity at the doctoral level in particular will obviously call for a most searching examination of priorities.

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6. David G. Winter, David C. McLelland, Abigail J. Stewart. *A New Case for the Liberal Arts*. Jossey-Bass, San Francisco, 1981.
7. See *Medical Manpower for Ontario*. A Report of the Ontario Council of Health. Published by the Ontario Council of Health, Toronto, Ontario, 1983, pp. 55-56.

When one moves from a sector such as the above (where employment opportunities are essentially determined by government policies) to those professions whose graduates find employment not only in specified roles in the public sector but also extensively in the private sector, different kinds of manpower planning considerations emerge. In such fields as law, business and engineering, for example, graduates often do not practice the profession for which they have ostensibly been trained, but rather apply the education they have received in other and sometimes quite different fields of activity. "Manpower planning" for such areas is in consequence rendered extraordinarily difficult. For example, the Commission has been informed that the proportion of the Law Society membership in private practice has declined from 88% in 1973 to 71% in 1982.[8]

In Professor Stager's opinion, "the demand for services of lawyers in private practice will depend primarily on real economic growth, and secondarily on policy changes such as may affect Legal Aid and on the development of demand by private citizens."[9] In the light of this analysis, and noting also that intake into law faculties has not increased in the last five years (and indeed at the University of Windsor has been sharply reduced) the Commission does not at the present juncture offer any recommendation for reduction in overall intake or the closure of any single faculty. We observe further that the cost of providing legal education, as indicated by formula weighting, is very little more than in the case of general Arts and Science programs. The extent of overall savings that would be effected by closure is minimal.

The Committee of Ontario Deans of Engineering (CODE) noted that demand for engineers is particularly sensitive to economic growth, and drew our attention to probable increases in "the demand for graduates in computer engineering and computer science, electrical engineering and engineering management during the next decade, arising primarily from the need to sustain and accelerate growth in the information-based industries in Ontario."

A large part of the CODE brief, however, concentrated not so much on the number of engineering places available but rather on serious deficiencies in equipment and facilities, and on what the deans felt were inadequacies in student/faculty ratios and provision of technical support staff. They drew attention also to the need to support "the concept of 'centres of specialization' in specific fields of study as a means for a significant amount of expertise to be concentrated in 'critical masses' at particular locations." The Commission considers that its recommendations under Section 4.0 address CODE's fundamental concerns.

The Institute of Chartered Accountants of Ontario, in addition to expressing concern over the current quality of accounting programs in Ontario universities, noted the inherent dangers of long-term manpower planning and took the position that in the main "market forces should ultimately rule." Nevertheless, all indications are that because of greater demand and the decreased supply of university students in the 1990's, "the chartered accounting profession will experience a shortage of quality students suitable for entry to our professional programs." The demand for both part-time undergraduate studies and part-time continuing education studies is likely to increase in future. The Institute drew attention to the current difficulty of obtaining adequate numbers of highly qualified university instructors in accounting and to what it felt was the inadequate allocation of funds to accounting programs.

In a third professional sector one finds graduates, such as those from faculties of education, most of whom will find employment in the public sector but who frequently come to occupy positions not closely related to their formal degree qualifications. The Commission notes that some of the recent increase in enrolment in education faculties is directly connected with changes in the school system brought about by government policy or in response to new social demands. More specialists, for example, are required for the rapidly increasing number of students in French programs, or for French language curricula, or to meet burgeoning demands in the area of training in the use of computers. On the other hand, the view was expressed to the Commission that across the system as a whole there may be some temporary over-production. The Commission accordingly suggests that further review of this area is warranted, and that it might well be undertaken by the proposed IMB. Of equal or greater concern to the Commission is the question of the *quality* of certain graduate programs in education at more than one institution in the province, as indicated by evaluations emerging from the ongoing appraisals process of the Ontario Council on Graduate Studies. There may well be a need to reduce graduate program offerings in the interests of quality, but any such action would have to take account as well of such factors as the demand for part-time continuing education at this level throughout the province, as exemplified by the considerable enrolment within Ontario in programs offered by American institutions. The Commission recommends that the IMB undertake the necessary investigations and ensure compliance with appropriate standards of quality.

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8. David Stager. "Are There Too Many Lawyers?" *Canadian Public Policy*, Vol. IX, 1983, p. 246.

9. *Ibid.*, p. 249.

3.3 Adaptability

The Commission heard testimony to the effect that the current mode of formula financing presents certain obstacles to adaptability and innovation. Based as it is essentially on the enrolment variable only, it has a unidimensional or levelling character, which creates disincentives to those educational innovations and adaptations which affect enrolment.

The Commission believes that the basic values of formula funding, for reasons well stated in the COPSEO Report, should be retained, but considers in the first place that the details of the present funding system need modification in the direction of a more flexible and "multidimensional" approach.

Secondly, the Commission observes that the need to reinforce the research capacity of our universities, referred to already under the treatment of quality in Section 3.1.2, also relates to their capacity to play a leading role in contributing to the development of new and rapidly developing fields of importance to the economic and social development of our country. Investment in improved research capacity is an essential factor if universities are to assist Canada to be in the forefront in at least some of these fields.

A third important policy area arises in connection with our investigation of the problems associated with the faculty age profile and distribution of faculty in our universities — a situation which strongly militates against the quality and vitality of our institutions and seriously impedes their powers of adaptation and innovation. At our hearings the concept of some type of temporary "Renewal and Adjustment Fund" was warmly welcomed. The major emphasis emerging, however, relates to the need to restore to a more normal level the ability of the system to bring in younger faculty rather than upon a scheme of general early retirements of existing faculty. Such a policy is strongly correlated (as will be seen in Section 4.2.2.1 below) with measures which will be required in any event to cope with the enrolment surge of the last part of the decade and to "bridge" to the 1990's, i.e., to have on hand an adequate supply of faculty to fill vacancies arising from increasing numbers of retirements at that time.

A factor which could impede efforts at faculty renewal and which was frequently drawn to our attention is the impact of those provisions in the Charter of Rights relating to avoidance of discrimination on the basis of age, which come into effect in April, 1985. Experience in other jurisdictions, such as Manitoba, suggests that in the absence of provincial legislation to the contrary, the resulting delay in retirement patterns is likely to reduce the scope for appointing younger academics as replacements over the period 1985-1989, thereby accentuating the problem of faculty renewal. This factor has been taken into account in our financial proposals designed to facilitate the appointment of younger faculty.

Finally, we note that a current impediment to faculty mobility is the lack of pension portability among many of the universities. As autonomous institutions, the universities have each developed their own pension plans and consequently pensions are not easily portable when faculty members move from one institution to another. As a Commission we have not had sufficient time to investigate this particular issue, but we suggest that it is one to which the universities through COU might give serious consideration with a view to possible remedial action.

3.4 Balance and Differentiation

Our terms of reference specifically request the Commission to develop an operational plan which "without reducing the number of Ontario universities in Ontario provides for more clearly defined, different and distinctive roles for the universities of Ontario in order to maintain and enhance the quality of university education by ensuring the appropriate concentration of academic strengths in areas of intellectual and social importance."

In considering this issue in our June discussion paper we made several observations. The first was that differentiation need not always involve specialization of functions. A given institution may be "different" not so much in respect of *what* it does, as in respect of the *manner* in which it discharges its mission. Secondly, where there is concentration upon specialized subject areas within an institution this might well relate primarily or even wholly to the range of professional programs, graduate programs and research, without eliminating the existence within each university of a coherent core of arts and science undergraduate programs.

In that paper, the Commission also noted that the universities were to a considerable degree already differentiated in respect of their roles and missions, both in undergraduate, professional and graduate education and in research. This was documented in Part II of the *Background Data* issued with that paper. In the course of our hearings, and from other evidence presented to us, this impression was both illuminated and strongly reinforced. In this respect the institutional responses to the question in the Preface of our June discussion paper, asking each university to set forth its distinctive character and profile of its activities, were particularly helpful.

As a result of these hearings and our deliberations we have concluded, while emphasizing the importance of an adequate and coherent range of undergraduate programs within each university and the need for a balance between the advantages and disadvantages of institutional specialization, that there are benefits to be gained from recognizing and supporting the differentiation among the universities of Ontario. Such differentiation in terms of institutional character, range and level of programs, and

fields of specialization in research would provide appropriate concentrations of academic strengths and diversity of choice for students. In encouraging such differentiation the policies set forth below should govern.

3.4.1 *Balance*

An important consideration here is that an adequate base of undergraduate programs in the liberal arts and sciences must be available in all universities. This we regard as a *sine qua non* of any rational plan for system development.

Equally important is the need, in order to provide a capacity for response to new developments in important areas of knowledge, to strike a balance between encouraging greater specialization in particular fields within institutions in order to develop sufficient concentrations to sustain international levels of excellence, and avoiding overspecialization of institutions to a degree that would limit their capacity to adapt to changing and as yet unforeseen opportunities further in the future.

3.4.2 *Differentiation*

The Commission recognizes that there are some fundamental differentiations in balance of functions among our universities. A fairly well-defined group of institutions, in addition to carrying a full range of undergraduate and graduate programs, are heavily engaged in "resource-intensive research" enterprises. We would include in this category those institutions where total sponsored research expenditures exceed 20 per cent of operating revenues: Guelph (40.5%), McMaster (38.5%), Queen's (26.6%), Toronto (26.1%), Western (23.4%) and Waterloo (22.4%) (1982 figures). Of the other universities the closest to this category are Ottawa (16.5%), Carleton (15.5%), and Lakehead (11.5%). No other Ontario university exceeds a ratio of 10%.[10]

In a category which might be called "instruction-intensive" are universities which, although they may conduct considerable research, are not engaged heavily in those activities where resource-intensiveness is involved. Among them are institutions playing a major role in providing accessibility within their own region through full-time and part-time programs, including selected professional and graduate programs as well as "core university research" and research relevant to their special interests or their regional or metropolitan location: for example, Lakehead, Laurentian, Windsor, Ottawa, Carleton, Brock and York. With less regional focus, Wilfrid Laurier and Trent Universities offer a major emphasis upon good general undergraduate programs supplemented by selected professional, graduate and research programs. Finally, Ryerson Polytechnical Institute and the Ontario College of Art (OCA) are special purpose institutions, each with a very distinctive mandate.

The broad categories outlined above cannot do justice to a full portrayal of each university's distinctiveness as set forth in the institutional responses to our June discussion paper and the hearings which followed. Each university has to a quite considerable degree established its own particular character related to size, location, urban or residential setting and traditions, to range, type and level of programs, and to areas of focus in research. Despite the criticisms still heard about duplication of activities, there seems to have been a growing realization, in part encouraged by the Ontario Council on University Affairs (OCUA) in recent years and no doubt reinforced by the appointment of our Commission, that each university should carve out a distinctive role for itself.

The Commission holds that such differentiation ought to be recognized in funding principles and in planning and co-ordinating structures, and that its appropriate further evolution should be encouraged. However, we reject the notion that universities should be formally designated by a central body as to their type, or placed in rigid categories. Emphasis should rather be placed upon a competitive system within which institutions are rewarded for the distinctive functions they perform and the quality of their activities and in addition are provided with the capacity to be flexible and innovative.

Equally important is the encouragement of closer inter-institutional co-operation. There has already been some significant progress in this direction, particularly between institutions in close geographic proximity. The Guelph-Waterloo joint Ph.D. program in Chemistry has already established a very good reputation and is an example of the benefits that can flow from such co-operation, particularly in graduate programs. A promising development is the joint involvement of Carleton and Ottawa together with Algonquin College and the Ottawa-region high-technology industry in the Ottawa Carleton Research Institute. Considerable progress has also been made by these two universities in developing joint graduate programs, an arrangement which might well be developed into a more comprehensive and formal structure. It is not our purpose here to catalogue all the existing co-operative arrangements within the province but we note as further illustrations those operative between Wilfrid Laurier and Waterloo Universities, which enable undergraduates at either institution to take courses in the other university in programs not available in their home university; and the joint Queen's-Trent program in concurrent education. Such inter-institutional co-operation, like differentiation, is likely to be more effective when achieved by encouragement and financial incentive than by imposition.

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10. See Table 4 in Part II of *Background Data*.

One approach to achieving concentrations of academic strength without relocating faculty is the networking made possible by modern technology. An example of such a network is Netnorth, which was established in June of 1984. Since that time, Netnorth has expanded to include 14 institutions — not all of which are universities and not all of which are in Ontario. Netnorth and other such networks exist to satisfy the need to be in on-going communication with colleagues, working in the same field, at other institutions. Through Netnorth researchers can communicate not only with the 14 participating institutions in Canada but with 73 institutions in the U.S.A. and 59 institutions in Israel, Italy, the Netherlands, Spain, Switzerland, the United Kingdom and West Germany. In our view, it is highly desirable to encourage such networking not only in the interests of research but also to facilitate co-operative developments in instruction, particularly in bilingual education and distance education.

3.4.3 *Process*

In its terms of reference, the Commission is explicitly charged to develop its plans in such a way as to pay due heed to the integrity of the universities and to the values inherent in an appropriate degree of institutional autonomy. The Commission agrees that if quality, adaptability and vitality are to be enhanced, major reliance must be placed upon institutional initiative, fostered as far as possible by incentives, and not by top-down fiats. Rationalization by dictated differentiation is likely to involve the development of a costly layer of centralized bureaucracy with an attendant stifling impact on initiative and vitality.

Consequently, the most effective means will be to allow differentiation to evolve within guidelines established by the IMB rather than to designate institutional character or to limit a university by sectoral areas of involvement. The process of evolution, however, should be stimulated by incentives which give real signals to quality rather than to size of program; which provide opportunities to important sectors which are inadequately developed in the Ontario institutions; and which reward objectives such as technology transfer to Canadian industry. Such an approach would permit very good programs to emerge at any institution in the province, and might be expected to lead some universities to develop a large number of high quality programs, earning for such institutions a world class status.

At the same time, appropriate mechanisms for reconciling competing claims and aspirations and for ensuring adequate responsiveness to provincial needs must be built in both to funding and to planning and co-ordinating arrangements for the system as a whole. These are dealt with in Sections 4.0 and 5.0.

3.4.4. *Internal Governance*

The Commission has not been specifically charged to consider matters relating to the internal governance of the universities. Nevertheless, we observe that if the major objectives enunciated by the Commission are to be achieved, university governing bodies — boards, senates and governing councils — have a critically important role to play. For example, to the degree that institutions claim the privileges of autonomy and proclaim the values of local initiative, they have a corresponding obligation to develop "planned capacity and role" statements at a level of detail sufficient to have some real operational bite or significance. Particularly important is the development of a capacity to conduct effective self-analysis of institutional operations. Vague "mission statements" which avoid hard decisions on priorities will simply not suffice. If universities cannot define for themselves distinctive roles, if their powers of response to change or their "institutional dynamics" are ineffective, inevitably there will be a demand for an external co-ordinating body to perform this task. "Government dynamics" will fill the vacuum.

Likewise, governing boards will have to establish and maintain policies for their faculty and staff which put a premium on quality of performance. The Commission is aware that standards now in force for the awarding of tenure to faculty are of an acceptable level of rigour. Given the scarcity of opportunities for new appointments, the case could hardly be otherwise. However, comments received from a number of individuals outside the university world indicate a belief that as a general rule universities have not implemented rigorous procedures for continuing evaluation of faculty performance after the point where tenure has been achieved.

The Commission does not endorse the suggestion that the tenure system be replaced by some such alternative as sequential term contracts for faculty. An authoritative empirical investigation of the operation of such plans in the United States, for example, indicates that contract systems do not produce significant faculty turnover as a result of non-reappointments; that there is no evidence that they foster innovation, as compared with institutions on tenure systems; and that "a causal relationship, either positive or negative, between term contracts and faculty morale or between term contracts and faculty performance cannot be ascertained from available data."[11]

The authors note that "when we first decided to examine alternatives to traditional tenure policies, we assumed, at least tacitly, that we could discover one or several alternatives superior to tenure." After their lengthy study, however, they found that in this assumption they were mistaken. "The

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11. Richard P. Chait and Andrew T. Ford. *Beyond Traditional Tenure*. Jossey-Bass, San Francisco, 1982, pp. 42-50.

more we examined the alternatives, the less we were persuaded that any were markedly superior to tenure or irresistibly attractive. Instead, we reached essentially the same conclusion as the Keast Commission: effectively administered by a campus community, academic tenure can be an effective policy."[12] They concluded, therefore, in favour of a modified tenure system involving periodic performance reviews.

The Commission urges governing boards to ensure that policies in such domains as we have indicated, as well as in such areas as the granting of sabbatical leaves, and the administration of such policies, be of such a standard of rigour as to leave no doubt in the minds of the public and of government that universities are meeting appropriate demands for accountability. We add that the task is not solely a responsibility of university administrators or governing boards. Faculty associations also are equally responsible for the enforcement of high standards of professional conduct; and their reputation would be greatly enhanced if, like other professional bodies, they themselves were to take the initiative in instances where disciplinary measures are clearly required, rather than merely assuming an adversarial posture when administrators and boards undertake the necessary measures.

Our recommendations on policy issues will be found in Section 7.0 (Recommendations 3 to 22), pp. 36-38.

12. Richard P. Chait and Andrew T. Ford. *Beyond Traditional Tenure*. Jossey-Bass, San Francisco, 1982, p. 143.

4.0 FINANCING

4.1 Financing Strategy

In support of the overall strategy proposed in Section 2.0 and the policies proposed in Section 3.0 the Commission advocates a two-phased approach to financing which involves the following components:

1) formula financing, modified to fund according to function and incorporating incentives for excellence;
2) a Renewal and Adjustment Fund for faculty renewal and program adjustments;
3) more adequate recognition of capital needs;
4) a larger proportion of total costs to be borne by tuition fees in recognition of the added personal benefits that users receive, together with an income-based contingency repayment loan plan to ensure that the higher fees do not increase the financial barriers to accessibility;
5) provision of funding to cover the indirect costs of research;
6) a significantly larger measure of support from the private sector in support of operating expenditures as well as research and capital.

In Phase I would be immediate modifications to the basic financing arrangements while Phase II would address urgent strategic improvements in support of educational programs, including a major adjustment in tuition fees and student aid, capital needs, resource-intensive research and private sector involvement.

4.2 Phase I Financing

Under this heading, we consider the financial arrangements that would be appropriate for immediate implementation in order to move towards our strategic objectives. For this phase, we assume, as suggested in our terms of reference, a context of level system funding (in real terms) supplemented by a special fund for faculty renewal and adjustments.

It is clear that in proposing any changes, within the context of level system funding, we are operating in a situation in which improvements in one area or for one or more institutions will entail corresponding reductions elsewhere. As previously noted, although there are areas where accessibility requires improvement, it is nonetheless the case that in comparison with other provinces, Ontario is meeting the *general* accessibility objective more adequately than any other province. In contrast, it is clear that quality is in jeopardy, that system adaptability is limited, and that our research effort while good is constrained in its efforts to meet the competitive challenges of a new era. Our general thrust in this section is therefore to aim at improvement in support of these latter objectives, and to tolerate some reduction in accessibility as a necessary compromise.

4.2.1 *Modification of Current Financing Techniques*

Given the desirability of maintaining some type of formula funding but of moving from the current unidimensional formula to a multidimensional one, the Commission was faced with the necessity either of adopting some quite new approach to formula funding, which would entail a thorough-going revision of the present weighting system, or of adapting it to better fit our current and future circumstances. In the interests of maintaining some continuity, and of avoiding the risk of unintended and unforeseen consequences, we have opted for the second route.

4.2.1.1 *Differential Corridors*

In order to maintain and enhance quality and adaptability and to encourage greater role differentiation, particularly with respect to research, some means must be found to loosen to some degree the coupling which now exists in the funding formula between student numbers and public funding. For this purpose we have elected to adopt the concept of a corridor within which enrolment variation would not affect funding. Instead of a uniform corridor for all institutions, however, we propose a plan for *multiple* corridors, which we believe will satisfy a considerable number of our policy requirements.

Under this modification to the formula, *all* institutions would be allowed a corridor of insensitivity to enrolment changes (in Basic Income Unit (B.I.U.) terms) of $\pm 4\%$ of base enrolment, with a discount of 100% within this range. In other words, within this range any institution could increase or decrease enrolment with no increase or decrease in operating income aside from that provided by fees. The intention here is to introduce some room for flexibility which avoids major financial penalties for all institutions. The baseline of $\pm 4\%$ is judged to avoid reductions of too severe an order in accessibility.

Secondly, those institutions in which sponsored research receives a special emphasis (and which as a result are typically suffering from heavy drains on their overall resources because of lack of adequate support for the large indirect costs of such research) would be allowed wider corridors of insensitivity to enrolment variations. Universities engaged in resource-intensive research to such a degree that a three year average of grants from all three federal research

councils exceeds 10% of operating income would be allowed an additional band of ±2%, constituting a corridor of ±6%. Those in which the three year average of such grants exceeds 15% would be permitted an additional ±4%, producing a corridor of ±8%. We opt for this criterion (rather than others which might be suggested) in the interests of *quality*, inasmuch as the grants in question are awarded by peer adjudication in national competition. For a technical description of how the bases and averaging would be determined under these proposals, see Appendix 1.

Under this proposal, research-intensive universities would not obtain additional funds at the expense of more accessibility — oriented institutions, but would instead be allowed a greater range within which enrolment could be reduced without major penalty in order to reallocate resources to achieve a better balance of support between their research and educational program efforts. The graph on page 64 indicates which universities would currently qualify for extended corridors under this plan. On the other hand, those "instruction-intensive" institutions which feel themselves overburdened by enrolment pressures could alleviate such burdens, at their own initiative, by appropriate reductions in enrolment up to the limit of the ±4% corridor. If their enrolment were to increase over the 4% boundary, they would receive additional income, whereas the research-intensive universities would have to expand by either 6 or 8 per cent.

Initiative is left with the individual institution, to define the directions in which it chooses to concentrate its efforts. Autonomy is thus respected. All institutions would experience an increase in their reallocative capacities, and in consequence would be more flexible and adaptable to change. Further differentiation — but by incentives, not designation — would be the expected outcome. And, as noted, the serious problems of financing research, especially in those universities heavily engaged in resource-intensive research, would in part be addressed in a constructive way without further input of provincial funds or detrimental consequences to any of their sister institutions.

What would be the effect on accessibility? We estimate that in the extreme case, if all institutions reduced enrolment to the maximum permitted within their respective corridors, the total eventual reduction (expressed in B.I.U. terms) would not exceed 6%. In practice, the reduction would probably be somewhat less. While not minimizing the consequences of such reduction of accessiblity, we point out that even at the theoretical maximum reduction, the Ontario participation rate would still be as high as that of any other province in Canada.

The Commission wishes to note that before moving to the "differential corridors" approach, we considered several other funding models, addressed primarily to the recognition and reinforcement of capacity for resource-intensive research.

One model entailed reduction of all Ph.D program weights from 6 to 3, with the resulting savings redistributed according either to federal council grants or in proportion to the institutional totals of externally funded research. This model was rejected because it severely penalized institutions with a high Ph.D. enrolment (such as the University of Toronto).

A second variant reduced all doctoral enrolment weights from 6 to 4, and redistributed the resulting monies on the basis of "earned Research Income Units" following the 1973 proposal of J.B. Macdonald. Again, the resulting allocations (whether based on federal council grants or on total research funding) were for similar reasons unsatisfactory.[13]

In a third model, we withdrew from the total grant a figure of $71 million (representing an amount equal to 50% of the federal research council grants received by the system in 1982, as an indication of the indirect costs of research) and then distributed it in proportion to a three-year average of direct federal research grants. On balance, five institutions made appreciable gains in revenue, but ten universities suffered reductions ranging from relatively minor sums to losses of a severe and disruptive order (such as $2.7 million for York, $1.6 million for Windsor, $1.3 million for Wilfred Laurier and $1.0 million for Laurentian).

In a fourth model, which was a more moderate version of the above, the redistribution was reduced to approximately half of the above figure (i.e., to $35 million). Though the effects were less serious, among the ten institutions affected negatively the reductions in the four most extreme cases were still quite significant.

While of these various models the last two addressed the problem of support for resource-intensive research more adequately, the financial dislocations of such solutions in a level funding situation led the Commission to conclude in favour of an alternative approach involving differential adjustment of enrolment rather than of funding. The resulting proposal increases flexibility for *all* institutions, providing as it does additional room to reallocate resources as institutional circumstances require.

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13. John B. Macdonald. "Financing of Research in Universities." *Stoa*, Vol. 3, 1973, pp. 157-174.

4.2.1.2 *Incentives for Quality*

Despite all the advantages of formula funding systems, one long-standing criticism of funding formulae is that they tend to concentrate upon quantitative input measures such as enrolment numbers to the detriment of quality considerations. Given the strategic emphasis upon excellence which we have proposed, the issue of introducing quality criteria and incentives for both instruction and research into the funding formula inevitably arises.

The differential corridor scheme which we have proposed in the preceding section as a modification to the current funding formula enhances institutional flexibility by reducing the penalty for changes in enrolment. It provides at the same time some scope for greater enhancement of quality in both instruction and research through reallocation of resources made possible by a reduction in the pressures which have arisen from current high levels of enrolment. Furthermore, by basing the wider corridors upon the peer-adjudicated national awards for research made by the federal granting councils a clear incentive for excellence of research is incorporated. There remains the question, however, of providing positive incentives for instructional quality.

One option which was proposed to us is to limit future public funding to students who have achieved more than 65 per cent or possibly 70 per cent on Grade 13 standing, thereby reducing total enrolment and hence producing an improvement in the student/faculty ratio. This proposal was supported with the argument that as a result of grade inflation over the years 60 per cent to-day represents a somewhat lower standard of eligibility than when it was established two decades ago. However, there would in our view probably be difficulties in controlling the further grade inflation that would almost certainly be encouraged by adoption of such a scheme. Furthermore, while high student/faculty ratios might be reduced substantially in those institutions which currently admit significant numbers of entrants below such a revised cut-off point, those universities whose current quality has led to admissions criteria already above such levels would at best only indirectly benefit.

Other jurisdictions have incorporated into their funding formulae a variety of special incentives expressly directed at instructional quality.[14] One is the use of institutional funding at a different level (for example in dollars per student or students per faculty) for a selected number of "flagship" institutions (a strategy employed, for example, in such American states as California and Texas). However, given the presumption in our context of level total system funding in real terms, such a modification would entail corresponding reductions from the current level of funding for all other institutions in the system. This scheme would be much easier to implement where funding for the system is expanding or where institutional differentiation was established from the outset. In our current context in Ontario it would be difficult to implement at this juncture without considerable disruption. Moreover, it would represent a form of differentiation by institutional designation which we have rejected in favour of differentiation by competitive performance.

A different approach is to incorporate into the funding formula a premium for quality of instruction based on performance measures. Since research quality as measured by peer review is at best only an indirect proxy for quality of instruction, such alternative measures as results on national examinations and accreditation ranking of professional programs have been suggested as indicators that might be used. For example, in the best-known attempt along these lines, in Tennessee, up to 2 per cent of the budget allocation of each institution is based on a series of performance indicators. In Great Britain, although the University Grants Committee does not employ a funding formula, its sub-committees, in making recommendations for differential adjustments in institutional enrolments, have taken into account a variety of qualitative indicators including the relative qualifications of students entering programs at different universities.

Were such a scheme of performance indicators for instructional quality to be incorporated into the Ontario funding formula (at least to a modest degree), it might consist of two components. One would be to provide a premium in proportion to the fellowships won by the graduating students of each institution in national competitions as awarded by the federal granting councils. Given the current variety of such fellowships in value and nature, the appropriate scale of institutional premiums would be a subject on which the intermediary body proposed in Section 5.0 might be asked to render more detailed advice. A second component might provide premiums for the quality of students attracted at the entrance point by a matching allocation of $100 to institutions for each Ontario scholar admitted, which we estimate would require a total of $1.5 million annually. If a total of $3 million, half for each component, were

14. Paul T. Brinkman. "Formula/Budgeting: the Fourth Decade," in L.L. Leslie, ed., *Responding to New Realities in Funding*. Jossey-Bass, San Francisco, 1984.

allocated from the system operating grant, the amount involved at less than 0.3 per cent of the total system funding would not be large, but the symbolic effect and the fact that these allocations would entail incentives related to desirable forms of competition, might provide measures which would make for increased system differentiation of a positive kind.

An additional approach to establishing incentives for quality of instruction is to supplement the formula with extra-formula supplementary grants. In other jurisdictions, such as Florida, Mississippi and Virginia, varying forms of "funds for excellence" have been established in support of excellent programs or "centres of excellence." Experience seems to indicate, however, that where this is done, institutions should be placed in competition for the limited additional support and the allocations should be based upon a system of academic evaluation, in order to avoid the political contests which are otherwise likely to be engendered. We believe that this general approach would have a useful application as an incentive for quality and include it in section 4.2.1.4 below relating to supplementary extra-formula grants.

4.2.1.3 *Formula Incentives to Support Specific Public Policy Objectives*

In the preceding two sections we have proposed modifications to the funding formula to enhance institutional flexibility and adaptation and to encourage excellence in instruction and research. A further extension in the multidimensional character of the formula would make possible its use to support specific public policy objectives, particularly to: (a) provide incentives or disincentives for enrolment in specific fields; (b) provide incentives and disincentives for the provision of programs for particular groups; and (c) sustain smaller institutions at viable levels.

The Commission has been specifically asked to consider ways "whereby adjustments can be regularly made to the resources allocated to professional programs such as education, law, medicine, dentistry, etc., and to the level of enrolment in these programs to respond to changing labour market requirements." For reasons already presented in section 3.2, we have argued that the principal reliance be on market forces supplemented by financial incentives in the public funding allocations where indications of increased or decreased demand are unmistakable and likely to be enduring. In implementing such an approach, we suggest that, upon the recommendation of the intermediary body, selective adjustments of funding discounts relating to particular fields might be made from time to time. For example, it might be desirable, on further study, to encourage enrolment growth in engineering, accounting or other fields by this method or to discourage enrolment in education. To ensure effective impact such adjustments to discounts in the formula might be exempted from the insensitivity to enrolment change embodied in the scheme for corridors proposed in section 4.2.1.1 above.

In section 3.2 we also considered a variety of accessibility problems relating to particular groups, noting especially the emerging needs in bilingual education and in distance education. Through selective adjustments of the discounts from time to time, made upon the recommendation of the intermediary body, incentives for institutions to meet the needs of particular groups could be provided. For example, efforts by individual institutions to improve Franco-Ontarian participation might be encouraged if additional enrolment were in their cases less severely discounted. Improvement of regional accessibility in Northern Ontario could be assisted by providing that additional enrolment in the northern universities was treated in the same manner. Similarly, in the case of distance education in remote areas, ensuring lesser discounts for additional enrolment at a distance would remove the tendency for the current discounts to nullify the provision of a special weight for students served at a distance greater than 120 kilometres from the institution in question.

A perennial problem, raised once more with the Commission by some of the smaller universities, is the issue of sustaining smaller institutions at viable levels. Consideration might be given to adjusting the weighting of B.I.U.'s where an institution's funded B.I.U.'s are less than 6,000, but at the same time caution will be required to avoid encouraging economic inefficiencies.

As well, the intermediary body might be requested to investigate, and if found desirable recommend changes in the formula weights for such special purpose institutions as Ryerson Polytechnical Institute and the Ontario College of Art. For example, in the case of Ryerson its emerging functions in applied research in relation to industry, particularly in the new technologies, deserve careful examination.

Within the available time and resources, the Commission has not been able to work out a precise set of initial proposals for incentives in this general category to be immediately incorporated within the funding formula, nor the degree of reallocation of financing that would be involved. In any case, it would be desirable to have such incentives developed over time in an evolutionary way following careful study by the IMB. But immediate provision should be made to enable the IMB to proceed with such reviews and recommendations. We would, however, draw attention to the fact that if additional sums are not available, the scope for such incentives would be limited because they could be implemented only at the price of reduced resources elsewhere.

4.2.1.4 *Extra-formula Grants to Support Specific Public Policy Objectives*

Currently, approximately 1.7 per cent of the total operating grant for universities from the Ministry of Colleges and Universities is allocated on the recommendation of the Ontario Council on University Affairs in the form of extra-formula grants for bilingual and northern institutions and for institutional differentiation. While we strongly support the maintenance of formula funding as the predominant mode of financing Ontario universities, we see some benefit in expanding the categories and amounts set aside for such discretionary grants up to a maximum of 2.7 per cent of the total operating grant. In addition to the continuation of the current three categories of supplementary extra-formula grants, a further amount of up to 1 per cent would provide additional funding of up to $11 million annually to support specific public policy objectives which would otherwise be difficult to implement solely through the mechanism of formula funding.

Among the additional purposes we have in mind for extra-formula grants are support for: (a) the start-up costs of specific projects for inter-institutional co-operation, including co-operative networks for instruction and research and co-ordinating arrangements for bilingual education and distance education; and (b) the encouragement of excellence through limited-term grants in support of programs and centres of excellence.

The intermediary body, in advising the Minister as to policy regarding such awards, should keep in mind the points already made in section 4.2.1.2, i.e., that in order to enhance quality, awards to projects should be made only on the basis, where relevant, of a prior process of academic evaluation, preferably in a competitive context.

4.2.1.5 *Maintenance, Renovations and Alterations of Physical Plant*

Every university drew the attention of the Commission to the need for more adequate funding to maintain, rehabilitate and adapt physical plant and to ensure that needed alterations could be made to facilities for instruction and research. Adaptability in both areas is obviously impeded if appropriate facilities to accommodate new requirements in instruction or to house new developments in the sciences are not available.

Standards which are well proven and applied in a variety of jurisdictions call for annual support for such functions in the amount of at least 1.3 to 1.5% of plant replacement value. In Ontario, such a norm would yield an appropriation of $46.5 — $52.0 million per annum. At present, the granting system falls short of such support by approximately $36 million.

The Commission considers that action on this issue is urgent. As an initial step towards meeting the target, it recommends that $10 million be withdrawn from the provincial operating grant and allotted to capital funds for major maintenance, renovations and alterations. The proposed IMB would be given responsibility for making recommendations to the Minister on the allocation of these funds. Improvements in facilities which have a bearing on instructional and research quality should as far as possible receive primary emphasis.

4.2.1.6 *Tuition Fees and Student Aid*

In order to offset the transfer of $10 million from the operating grant to capital funding proposed in the preceding section, the Commission recommends as an element in the Phase I arrangements an optional increase in tuition fees beyond the present permitted maximum in each category. The increase would be achieved by extending the current institutional discretion from 110% to 118% of the formula fee. If adopted by all universities such an increase would yield additional revenue of $15 million, a 7% increase in fee revenues. To avoid additional barriers to accessibility, it is proposed that the equivalent of one third of this amount, i.e., $5 million, be added to the grants portion of OSAP. The mechanics of this proposal would call for action by the Government to remove $15 million from the operating grant and direct $5 million of it to OSAP and $10 million to capital grants, while the universities retain the additional $15 million in fees to offset the reduction in operating grant. The result of such measures would be to increase the proportion of costs covered by fees of non-visa students from 16.1% to 17.2%.

4.2.2 *Renewal and Adjustment Fund*

4.2.2.1 *Faculty Renewal Funding*

In her speech of December 15, 1983, the Minister noted that "there will be due consideration of additional funds to facilitate faculty renewal and adjustments arising from the Commission's recommendations." The Commission developed its inquiries into the most appropriate uses of such an "Adjustment Fund," as we then termed it, *which would be one-time and not part of ongoing base funding*, along the lines indicated in Section 4.0 of our June discussion paper.

During the course of our hearings we heard a considerable body of evidence pointing to the very impressive benefits which would accrue to the system if the opportunity to appoint younger faculty were restored to a more normal level. The abnormal faculty age distribution

which has resulted from the dramatic increase in staffing in the 1960's and early 1970's has meant that with currently relatively few retirements, there are few openings for the present generation of young scholars and teachers. The presence of an appreciable number of talented new faculty would enhance instructional quality and adaptability and also assist in building up desired centres of strength in key developing fields of research and instruction. We would be replenishing our stock of productive human capital. To the degree that a more normal number of new appointments occurs, improvement in the proportion of women faculty would be possible. Moreover, the additional appointments would greatly aid in enlarging the capacity of the system to cope with the enrolment pressures to be faced at the end of the decade from the impact of the "double cohort." Finally, these younger faculty, if put into the pipeline now, would be available to replace older faculty in the earlier half of the next decade, as the rate of retirement of such faculty begins to accelerate. Such "bridging" to the 1990's is a most desirable component of sound long range planning.

To achieve these several objectives, the Commission accordingly recommends the establishment of a one-time faculty renewal and bridging fund to finance five-year appointment terms for approximately 550 younger faculty to be appointed during the period 1985-1989, in addition to those who will be appointed during that same period to replace retiring faculty. Such a program would produce an annual appointment rate of new personnel of 2% of total faculty complement, not far off the more normal rate of 2½% which would obtain if the faculty age distribution were uniform. The lower rate of 2% makes possible the provision of additional support staff at a ratio of 0.8 such staff for every additional faculty appointment.

Appendix 2 contains tables showing the process of phasing in of these appointments, and the cash flow for each of the years involved. The cash flow peaks at $30,432,200 in 1989. The total cash flow required over the period 1985-1993 comes to $152 million. If this flow were discounted at 10%, its 1985 present value would be $108 million. Our analysis indicates that close to *double* this sum would be required if instead of *adding* young faculty (and support staff) we were to attempt to create vacancies for such personnel by effecting a large-scale phased retirement from the ranks of faculty in the 55-65 year old age group.

The Commission notes that if appropriate controls or guidelines regarding the allocation of these new appointments were to be introduced by the proposed IMB, Renewal and Adjustment Fund monies would not only serve the purposes outlined above, but could also reinforce desirable thrusts in particular areas of research and instruction.

The Commission emphasizes very strongly the multiple benefits that would flow from the provision of such a Renewal and Adjustment Fund. Its establishment would do much more than merely enable our universities to cope with problems we shall face in any event: it would have an invigorating effect which would substantially enhance morale and system vitality and adaptability.

4.2.2.2 *Institutional and Program Adjustment*

Under present circumstances, major program adjustments, reductions of faculty in areas of particularly low student-faculty ratios, or (where desirable) the closure of programs are discouraged by the lack of funding assistance for such one-time costs as those required for early retirements, or the relocation and retraining of faculty and staff. It is therefore proposed that there be an additional component of the Renewal and Adjustment Fund of $20 million for these specific purposes, to be allocated on the recommendations of the intermediary body.

4.2.2.3 *Impact of Implementing the Charter of Rights*

The Commission notes that unless "notwithstanding" legislation is passed, the provision in the Charter of Rights forbidding discrimination on the basis of age will come into effect in April, 1985. The Commission does not advocate the passage of such legislation. However, it anticipates that in its absence the average age of retirement will rise, which will have two effects. The first will be a reduction in the number of young faculty recruited to replace retiring faculty. We estimate that as a consequence, by 1989 approximately 300 fewer new faculty (446 instead of 752 retirement replacements) will have been recruited than would otherwise have been the case. (See Appendix 2). The second will be an increase in operating costs due to the retention of higher salaried faculty rather than their replacement with younger faculty. A further $24 million, it is estimated, would be required to help defray these additional costs.

4.3 Phase II Financing

In the preceding section (4.2) the Commission has presented a set of recommendations and the supporting rationale for immediate modifications to the financing arrangements as the first phase towards implementing the proposed strategy for the universities of Ontario.

Notwithstanding the funding premises set forth in our terms of reference, the Commission has identified certain urgent needs that have to be met in a strategic plan if the universities are to make an

effective contribution to the challenges and opportunities facing Ontario and Canada. It will already have become apparent that even with the extensive modifications to the current financing arrangements proposed in the first phase in the interests of enhancing quality, adaptability and institutional differentiation, there are limits to the degree of improvement possible within the basic funding premise, and that those proposals will require a modest reduction in accessibility from current levels. Consequently, for this second phase in the strategic financing of our universities, which we regard as an integral and essential part of our recommendations, we examine the additional resources needed for educational programs, capital, research, and linkages with the private sector, and at the same time indicate possible sources including financing by the provincial and federal governments, tuition fees, and support from the private sector.

The Commission is keenly aware of the economic realities within which the province and the nation must operate, but a part of this reality is the requirement that our universities possess the capacity to contribute effectively to the development and international competitiveness of Canada.

In considering the issue of additional funding required, both at our hearings and in our deliberations we have focused primarily on specifically identified needs rather than upon general formulations relating to funding levels. We are not unmindful, however, of the points made by OCUA in its various annual reports and most recently its report of September 1984, *A Financial Analysis of the Ontario University System — 1984*, and of the latest report of the Tripartite Committee on Interprovincial Comparisons (1984), which indicate that in terms of provincial operating grants per Full-Time Equivalent (FTE) student for the latest year for which figures are available, Ontario ranks tenth and at $4,476 stands at 73.2 per cent of the weighted average of the other provinces at $6,112. Recent compression in some other provinces may have somewhat reduced the gap but will not have eliminated it. It has sometimes been argued that Ontario, because of its larger size, should be able to achieve some comparative economies of scale. It should be noted, however, that this is counteracted by the important national role played by Ontario universities and particularly the University of Toronto in providing highly specialized and therefore especially expensive graduate programs not available in many of the other provinces. Certainly, solely in terms of the cost per student, it could be said that the Ontario universities are "highly productive," but the effect as we have noted earlier has been felt in terms of constraints upon quality and adaptability.

We have also examined data in relation to other jurisdictions outside Canada, and while it is difficult to ensure the comparability of such figures, it is clear that in terms of funding per student we rank low among developed countries. A particularly interesting comparison was that with Michigan which in terms of population and number of universities is remarkably similar to Ontario, and which also happens at the present time to have a "Commission on the Future of Higher Education." It was clear from the comments of the chairman, with whom we had an opportunity to meet, and their midyear Progress Report that Michigan is placing a high priority upon the crucial role which its universities will have to play in the economic and social revitalization of that state. Interestingly, Michigan with a population of 9.3 million, compared to Ontario's 8.9 million, has 15 state colleges and universities, with all 15 offering bachelor's and master's degrees and 7, by comparison with 10 in Ontario, offering doctoral degrees. For comparisons of enrolment and expenditure, unfortunately only unweighted figures are available, but combined full-time and part-time enrolment in Michigan in the public universities and colleges in 1983-84 was 227,000 as compared to 279,000 in Ontario and the operating grant per FTE student for 1982-3 expressed in Canadian dollars was $5165 in Michigan compared to $4476 in Ontario. The sharpest contrast is in capital outlays, where Michigan is already committed to an expenditure of at least U.S. $385 million for universities and community colleges combined during fiscal year 1985.

A third comparative figure which attracted our attention was a comparison of the base unit costs for the CAAT's and the universities in Ontario. The range for program unit weights in the universities, which varies from 1 to 6, is much wider than in the CAAT's where for most programs weights vary from 1 to 1.4.[15] But the base unit for general arts and science programs within the universities (B.I.U. representing operating grant plus fees) is $3,960, which must cover both instruction and a share of faculty time devoted to research, whereas the base unit for the CAAT's (composed of a somewhat larger provincial grant and a considerably smaller tuition fee) and intended to cover solely instruction costs is actually higher, totalling $4048.

All these general financial comparisons indicate that in addressing the longer-run capacity of Ontario universities to contribute to the development of Ontario and Canada through their instruction and research, the issue of adequate resources cannot be avoided. We have not attempted, however, to duplicate the analyses of OCUA and CFRUO which have already analysed funding levels in general system terms, but rather have approached the question in terms of specific needs which might be

15. For a few programs in the CAAT's program weights may go as high as 3.0 or even 7.8, but the large majority of programs are closer to the base unit in weighting. The average weight in Ontario universities for all undergraduate programs is 1.55 and for all programs including graduate studies is 1.81.

identified, relating these to specific sources from which the required additional funding might be obtained.

In the following sub-sections, the areas of specific urgent need which we have identified as required to meet the longer-run strategic objectives are: (1) educational programs, for quality enhancement, accessibility restoration and northern development; (2) capital needs for major maintenance, renovations and alterations and for new construction; (3) resource-intensive research in terms of the support of indirect costs; and (4) linkages with the private sector.

4.3.1 *Education*

4.3.1.1 *Quality Enhancement*

Given the obvious importance of libraries and of instructional equipment (especially, for example, computing and science equipment) the Commission has identified the need to enhance instructional quality by an additional annual appropriation of $25 million.

In section 4.2.1.4, the Commission suggested as an initial step a special levy of up to 1% as a first call on the current provincial operating grant, to provide extra-formula grants in support of certain specified needs. In Phase II the Commission proposes restoration of this amount to the total annual operating funding in order to offset the compression in normal funding made necessary by the proposed 1% levy. The cost of such restoration would be $11 million.

4.3.1.2 *Accessibility Restoration*

In our financing proposals for Phase 1, having regard to availability of resources, we have placed a particular emphasis upon enhancing excellence and adaptability, tolerating a modest reduction in accessibility as one of the means to that end. One of the key mechanisms in this direction was the incorporation in the funding formula of a basic $\pm 4\%$ corridor of enrolment insensitivity proposed in section 4.2.1.1, implicitly permitting a potential reduction in system enrolment of up to 4%. In order to counteract this incentive to reduce enrolment, the mean for the corridor of enrolment insensitivity in the formula would need to be raised 4%. It is estimated that this restoration of accessibility would require annually an additional $55 million in basic operating income. If the longer run objectives for assuring general accessibility and for enhancing accessibility for special groups identified in section 3.2 and Recommendations 7 and 11 are to be achieved this additional funding will be essential.

4.3.1.3 *Tuition Fees and Student Aid*

If governments are unable to find the additional $91 million needed to restore and enhance quality and accessibility in the universities, as outlined in the preceding two sections, increasing tuition fees is an alternative source of revenue. In their briefs and at our hearings student organizations expressed great concern that major increases in tuition fees would raise the financial barriers to access to universities. While most groups from the private sector supported the concept of increased tuition fees or even their complete deregulation as a source of needed additional revenue, some advocated increasing taxes to finance these university programs, and yet others suggested diversion of monies from other government funded programs as the solution for improved financing for programs in higher education.

In their brief and presentation to the Commission, the Ontario Federation of Labour directly addressed the problem of accessibility, university funding and tuition fees. As their brief notes, "for some time now the OFL has supported the principle of free tuition and it continues to do so." However, in considering the problems associated with resultant increased taxation that would be necessary to meet the need for increased revenue, and the hardship which the alternative of higher fees would impose on children from families earning at or near the average family income in Ontario, they made the following points:

"Under current funding mechanisms the OFL prefers a policy of 'free tuition'. However, since this mechanism would only represent a further transfer of tax dollars from lower and middle income Canadians to upper income Canadians, we strongly recommend the Commission give serious consideration to the 'contingent repayment' system of funding students." In the OFL's view, a student loan bank with a contingent repayment program would have a number of benefits:

"First, it would put all potential participants in the post-secondary system on precisely the same financial footing on entry to the system. Second, it could be structured in such a way that those who receive the highest financial benefit from participation in the system could pay a larger proportion of the costs of their education while those who have lower earnings might never repay the full cost. Third, in order to promote affirmative action, repayment schedules could be fixed so as to allow women or men who may choose to leave the labour force for a period of time in order to raise children to stop making payments until such time as they rejoined the labour force. The critical point here is that repayment of the costs of a post-secondary education would be directly

related to earnings, the potential for which is usually significantly enhanced by the receipt of that education."

We agree strongly that increased tuition fees must not impair accessibility and therefore are recommending a tuition fee increase *only if accompanied by an income-based contingent repayment loan plan.* The Commission's proposals for further increases in tuition fees are directed to meeting the needs for additional operating funds of $91 million, identified in the preceding two sections (4.3.1.1 and 4.3.1.2). The Commission recommends that this target be achieved by a progressive increase in tuition fees over a four year period subsequent to the introduction of the increase proposed in section 4.2.1.6. If implemented, such a program would mean that system tuition fee income would eventually reach 25% of system Basic Operating Income (BOI). Such a level is equivalent to that which existed in 1966, as contrasted with the 1983-84 contribution to BOI of 16.1% paid by non-visa students. It would remain significantly below the proportion of 38 per cent which fees accounted for in 1946.

The proposed series of increases includes, in the first place, a revision of the fee structure which would, to a greater degree than now exists, reflect (a) actual differences in program costs and (b) differences in eventual earnings by the graduates of various programs. The differential fees suggested are designed with such considerations of equity in mind. A standard fee would be set for all direct entry programs which would be the B.A. formula fee of the preceding year adjusted only for inflation. In the first year of the four-year period, differential formula fees for other programs would be set in a fixed relation to this fee as follows:

Group I (direct entry) comprising all Bachelor's degree programs and all technological, theological and polytechnical programs to which students may be admitted directly from secondary school. 1.00

Group II (second entry, professional) comprising professional programs at either the undergraduate or graduate level that require some previous university education for admission. 2.00

Group III (second entry, clinical health science) comprising medicine, dentistry, veterinary medicine and optometry programs that have large clinical components. 3.00

Group IV (doctoral stream) comprising all doctoral programs and all Master's programs that lead directly to doctoral programs. 1.50

Group V (medical and dental interns and residents). 0.50

Formula fees for non-exempt visa students would be set for each group as well, using the same ratios, thus eliminating the current Group A/Group B arrangements, but continuing the current proportional relationship between domestic fees and foreign fees. The result would be a coefficient of 2.77 for all groups.

It is intended that these increases absorb current separate incidental academic fees.

In the subsequent three years, all formula fees would be progressively raised by an annual average of approximately 8% (over and above those increases necessary to match annual increases in the provincial grant) until system tuition fee income reaches 25% of System Basic Operating Income.

For further details of definition and implementation, the reader is referred to Appendix 3.

A second major aspect of the Commission's proposal is the rider that such increased fees should not impair accessibility. Such a condition will necessitate the implementation of some variant of an income-based contingent repayment loan plan. Current loan programs impose unequal burdens, both when the student recipient is being supported by the loan and during repayment after graduation. Income-contingent repayment plans, in contrast, relate repayment to actual future earnings. Those who receive the highest financial benefit from their participation in the university system pay a larger proportion of the costs of their education, while those with lower future earnings might never repay the full cost. From the point of view of the public, such a loan program reduces in part the taxation burden on those persons who do not directly participate in the system. Finally, it may be possible to set up the program in such a way as not to add to government indebtedness.

For further comments and elucidation, on the operation of financing of such a plan, the reader is referred to Appendix 4.

The Commission notes that if these urgent strategic needs for quality enhancement and accessibility restoration are not met by increased tuition fees an increase in the annual provincial grant of $91 million would be required.

4.3.1.4 *Regional Development Funding*

As a result of the briefs we received and the impressive presentations made during the course of our tour of the northern universities, the Commission has become cognizant of various special

needs of the institutions in this region. Not only are the two universities remote from the southern area of the province: each serves a vast area of its own. As we were repeatedly reminded, in compelling terms, a variety of essential services is provided to their immediate communities and to their outlying regions as well.

Native populations must be served, and continuing education programs impose additional and high costs. The Laurentian system must also deal with the special complexities of bilingual operations. The Commission notes as well the importance of maintaining on a part-time basis advanced degree capability in professional areas, and advocates that appropriate mechanisms be established to facilitate support for such programs by institutions in Southern Ontario in collaboration with the northern universities.

The Commission is not able to fix with precision the appropriate sums required to enable the northern universities to meet in adequate degree their special responsibilities. We believe, however, that special assistance in the range of $500,000 to $1 million for each institution over and above current support is probably required. In view of the fact that they discharge not simply the traditional educational tasks but also provide a wide range of essential services to their regions the Commission considers that such additional assistance might appropriately come from the Ministry of Northern Affairs.

4.3.2 *Capital Requirements*

For a discussion of the capital needs of the university system, the reader is referred to the background information and analysis contained in Appendix 5 which identifies four categories of capital expenditure.

Expenditures in the first category, for minor renovations and furnishing replacements, should be met from normal operating funds and the Commission is accordingly not recommending any special capital allocations in this category.

In the second category, major maintenance of the fabric of the buildings, and alterations required by program changes, the Commission estimates, on the basis of the studies cited in the Appendix, that for adequate maintenance and preservation of capital investment an annual capital appropriation of approximately $46 million is essential. Some $10 million is currently being provided. In our Phase I recommendations, we have suggested measures to obtain another $10 million. The remaining sum of $26 million is needed to achieve the target figure.

With respect to major additions to capital stock and building replacement, the Commission urges that a review of space needs in the light of the present mix of university programs and current institutional roles is needed to update the 1976 "Building Blocks" standards. Until such needs can be more precisely determined, the Commission's view is that annual allocation for new construction should be maintained at least at $20 million. This would be met if the current level of expenditure for this purpose covered by MCU funding and the BILD (Board for Industrial Leadership and Development) program is maintained.

The fourth category, equipment replacement, has already been dealt with in section 4.3.1.1.

4.3.3. *Resource-Intensive Research*

In Section 3.0 the Commission has drawn a distinction between the "core research function," which must be an ingredient in the activity of every academic discipline, and the especially costly "resource intensive" research activity. As we have also indicated, in the interests of both the province and the nation additional support to meet the costs of such research is urgently required.

The Commission has calculated the assistance needed to meet these costs in relation to the latest figures available for direct grants awarded to Ontario universities by the federal granting councils. For 1982 the figure is $142.8 million. On the basis of extensive studies by the Canadian Association of University Business Officers (CAUBO), overhead costs (excluding capital) approximate 50% of the direct costs. If capital is included, the figure is 79%. The Commission recommends that the Province request the federal government to provide overhead support for grants from the federal granting councils in the form of block grants to institutions, based on a three-year rolling average of direct grants per institution, at a level of at least 50% of direct costs. In relation to the 1982 figure, the additional funding would be $71.4 million.

The CAUBO study also drew attention to the costs of faculty time for such research, broadly estimating it at 76% of direct research costs. Taking half of this figure as representing the marginal cost for faculty time in such research, the Commission recommends an additional annual provincial allocation of $54 million to be allocated to institutions in proportion to the direct grants received from the federal granting councils. This would represent a provincial investment in Ontario's capacity for economic development as distinguished from funding for educational programs.

The Commission advises that when these additional grants in support of resource-intensive research from the federal and/or the provincial governments exceed $33.5 million, the additional corridors of enrolment insensitivity proposed in Recommendations 25(2) and (3) for universities heavily

involved in resource-intensive research will no longer be required and should be rescinded to enable restoration of accessibility to previous levels.

4.3.4 *Encouraging Private Sector Support*

The overall strategy for the future development of Ontario universities proposed in section 2.3 identified as an important element the encouragement of closer linkages with and increased support from the private sector. There are two reasons for this emphasis. First, at a time when additional resources are required and public funding increases are likely to remain constrained, the private sector represents an alternative source. Moreover, it would seem appropriate that the private sector, which is one of the major beneficiaries of the university system in terms of the graduates employed and the application of research results, should be called upon to assist in sustaining universities. Secondly, in an increasingly knowledge-based society and economy the potential for mutual benefits to universities and industry from closer links between them is likely to be of benefit to society as a whole. It was for this reason that among the special studies we commissioned was that by R. M. Bird and M. W. Bucovetsky on *Private Support for Universities* (October 1984).

The following salient points emerged from that study and the views presented at our hearings.

Neither private philanthropy nor increased business funding of research is likely to offer a total solution to the additional resource needs of the Ontario universities. Bird and Bucovetsky in their study have estimated that in 1980/81 Ontario universities received $35 million in gifts and $29 million in sponsored research from private sources, representing 4.1 per cent of total university expenditure. They note that these levels are lower than those in the United States where, due to a variety of cultural and political factors, the comparable figure for private gifts and donations as a percentage of the operating income of all U.S. institutions of higher learning (public and private combined) is approximately double that in Canada. They concluded, however, that even if by superhuman efforts, the present flow of support from the private sector were doubled in Ontario, it would still represent only a relatively small portion of aggregate university finances.

Nevertheless, it is both possible and desirable to increase direct private support of universities. While private funds may not represent a large proportion of the total expenditure, as one U.S. study cited by Bird and Bucovetsky has pointed out, they fulfill several valuable functions: (1) to provide an important margin for improvement, so as to promote excellence rather than adequacy; (2) to support innovative and risky programs with potentially large long-range pay offs; (3) to retain some degree of flexibility, diversity and autonomy; and (4) to provide a buffer against the adverse effects of sudden shifts in government funding. In short, even a modest increment of private support would contribute to the objectives of greater adaptability, excellence and diversity.

The major role in increasing private support must rest with the universities themselves. To succeed they will need to become more professional both in their approach to fund raising (drawing on expert resources and engaging in continual solicitations of alumni and other groups) and in their efforts to build up linkages and commercial relationships with the business world. Furthermore, it would appear that a decentralized approach by individual universities, while inevitably producing differential results, is likely to be more successful in generating increased support than a more generalized or centralized approach.

But while university initiative will be essential to increased private support, governments can and should help these endeavours, particularly with respect to encouraging university-industry linkages and research relationships.

At our hearings some concerns were raised lest our universities be converted into mere instrumentalities of industry and economic development. Those who see universities as serving a broader function have argued that only by standing apart from the immediate concerns of society can universities realize their full potential as autonomous centres of learning. But while universities should not be reduced to mere economic instrumentalities, the fact is that neither universities nor society can be isolated or independent of each other. Society and its economic development need the knowledge which universities preserve and extend, and the universities in turn cannot fulfill their intrinsic function of preserving, transmitting and creating knowledge without the culture and resources of society to nourish them. The solution, therefore, is not to isolate the universities from the private sector, but rather to ensure that in any development of closer linkages and co-operation the intellectual integrity of the universities is safeguarded, particularly in the commercial applications of research and the involvement of faculty in commercial enterprises.

There are three areas in which private sector support for universities should be encouraged and improved.

First, there is the increase of donations from corporations, alumni and individuals. In the past, some donors, particularly corporations, have often restricted such donations to capital or scholarships, considering operating expenditures an area to be covered solely by public funding and tuition fees. There is a need to persuade donors of the valuable contribution to institutional adaptability and excellence that contributions towards operating expenditures can make, a point emphasized to us not

only by university representatives but by some prominent individuals within the private sector.

Secondly, there is the development of a variety of industry-university links and co-operation. The Corporate-Higher Education Forum publication, *Partnership for Growth: Corporate-University Co-operation in Canada* (May 1984) has analysed the recent developments and ways of facilitating corporate-university co-operation through joint ventures, university-based interface institutes, university-based research parks, university-based companies and contract research. The Canadian Manufacturers' Association submitted to us as a brief the *Report of the C.M.A. Task Force on Business-Education Relations* (September 1984), which urges its members to improve industry-university interaction through a variety of measures: contract research agreements and joint research; corporate associates and affiliates programs; adult education programs for corporate employees; co-operative education; personnel exchanges; conferences, colloquia and symposia; consultancies, lectureships and faculty loans; volunteer programs, trusteeships and advisory services; corporate recruitment; and joint efforts to address national problems. For its part, the Ontario Federation of Labour in its brief emphasized the desirability of arrangements to facilitate access to university education programs for employees. There appears to be a growing realization of the potential benefits to both industry and universities from a variety of such linkages, but much of it remains yet to be developed. One area where considerable development has occurred and which representatives of the private sector in their submissions commented upon particularly favourably has been the development of co-operative education programs involving alternating terms in university and industry, operated by a number of Ontario universities. Difficulties with placements during the recent recession suggest, however, that this market has probably now been saturated in Ontario.

Thirdly, there is the development and expansion of co-operation in research. As we have already emphasized at some length in section 3.1.2 universities now play a central and strategic role in Canada's overall research effort, and while the primary research function of universities must continue to lie in basic rather than applied research, there is a real value in the constructive interrelationship between basic and applied research encouraged by closer university-industry links. As one respondent pointed out: "There is a tendency to think of corporate-university relationships, primarily in relation to the transfer of technology. In fact, the information revolution has broadened both the range of disciplines in universities and the types of industry for which interactions may be important in improving, among other things, productivity, efficiency, human resources management and international competitiveness. While there have been some notable exceptions, Canadian industries generally have not been at the forefront in the allocation of funds for research and development and in creating a climate conducive to research and development in-house." If a major objective of the Province of Ontario is to stimulate new areas of technology which may be relevant to provincial industrial development, it will be necessary to provide incentives and encouragement for industry university co-operation.

While there is already a considerable volume of contract research being carried out and while this amount has increased in recent years, a major difficulty for the universities is that the funding of such research is often inadequate in the extent to which it covers the costs of overhead or of faculty time. It was frequently drawn to our attention that the point has now been reached where most researchers in the universities are hard pressed, being more than fully occupied with their regular university responsibilities and with existing contracts, and that institutions are finding it increasingly difficult to provide the additional support staff, facilities and overhead costs which are required if contract research is to be expanded. Thus, further incentives to industries and universities to foster co-operation in research will not by themselves be productive unless the capacity of the universities to respond is improved. There are two important ways in which this situation could be improved. One is by the infusion of additional young faculty as already proposed in our scheme for a Renewal and Adjustment Fund. The second is a general recognition by industry, governments and universities that there should be full coverage of all indirect costs for contract research. Taking the cost analyses of the Canadian Association of Business Officers (CAUBO) *Report of the Study on the Costs of University Research* (1982), we recommend that the indirect costs of all contract research, whether for industry or government agencies, should be covered to a total of 117% of direct costs (made up of 50% for overhead, 29% for indirect capital costs, and 38% (half of the CAUBO estimate of 76%) for the marginal cost of faculty time).

For the public encouragement of increased private sector support in general there are two general approaches, both of which we advocate. The first is the encouragement of industry-university linkages and co-operation in research by the application of supplementary funds as incentives. The Wright Task Force suggested that rather than fostering a plethora of specific programs aimed at one aspect or another, the federal government should establish a stimulus to university-industry co-operation by providing a flat 25 per cent bonus to universities upon the actual value of all research and co-operative work carried out by universities for the private sector.[16] Very recently the Ontario Government instituted a Research Incentive Fund of $30 million to be spent over three years, to provide matching funds on a 1 for 2 basis to

16. *Task Force on Federal Policies and Programs for Technology Development*. Ministry of State for Science and Technology, Canada (July 1984), p. 22.

Ontario universities for research in co-operation with industry. We suggest that such incentives should in the longer-term be continued and enhanced.

The second approach is to provide incentives through changes in the tax regulations which will encourage the private sector to contribute donations to universities and to undertake co-operative research. The Council of Ontario Universities in an appendix to its brief submitted a useful report on this subject, prepared by Coopers & Lybrand for the Association of Universities and Colleges of Canada. We commend it for study by the Governments of Ontario and Canada. The study prepared for the Commission by R. M. Bird and M. W. Bucovetsky (Chapter 3) also reviews this subject. Among the approaches that we believe should be seriously considered are the allowance of a 150 per cent deduction for contributions to scientific research, the removal of the 20 per cent of income limitation on donations to educational institutions, and adoption of provisions similar to those in the United States: i.e., (1) allowing shareholders to transfer shares to an educational institution and obtain a charitable deduction equal to the fair market value of the shares without incurring a tax on any deemed gain; and (2) on contributions of scientific research equipment, allowing manufacturers a charitable deduction equal to the depreciated cost of the property plus one-half of any unrealized appreciation.

For the Commission's recommendations on financing (Recommendations 23 to 42) see Section 7.0, pp. 38-42.

5.0 INTER-INSTITUTIONAL PLANNING AND CO-ORDINATION

5.1 The Provincial Intermediary Body (IMB)

5.1.1 *The Basic Alternatives*

In Section 7.2 of our June discussion paper, eight alternative mechanisms for regulation, co-ordination and the provision of advice to the Government were set forth.

At one end of the spectrum (Options 1-3) were such possibilities as direct management by MCU, a province-wide "University of Ontario", or an intermediary body with the extensive powers possessed by the University Grants Committee in the United Kingdom. Option 6 specified co-ordination by a voluntary collective body such as COU. Options 7 and 8 raised the possibilities inherent in movement towards a "laissez-faire" or "deregulated" approach, driven basically by market forces. At the centre of the spectrum were Options 4 and 5. Option 5 called for continuation of a purely advisory Ontario Council on University Affairs (OCUA), while Option 4 stipulated an intermediary body which would take the form of a reconstituted and strengthened OCUA, shaping the system primarily by financial incentives and disincentives but with an enlarged monitoring function and endowed with some specified regulatory powers to reconcile conflicting institutional aspirations.

In their responses, only one or two universities favoured a move towards the deregulated end of the spectrum. Such a position was also advocated by several spokesmen from the private sector. Options 1 to 3, at the other pole, were judged to be undesirable because of the high degree of centralization involved and because they are not well adapted to the governing traditions and present state of the universities in the system. Since none of the briefs considered Option 6 to be viable, Options 4 and 5 remained, with the weight of institutional opinion and COU support centering on Option 4.

The Commission concurs with this collective verdict. The Commission recognizes the valuable contributions made both by COU and by OCUA. However, in its opinion current circumstances call for a stronger and clearer mandate and more effective capacity than now exists for overall system planning and co-ordination. Some of the elements of such planning are in place, but their reinforcement would assist in accomplishing the whole task.

The Commission was impressed by the "planned capacities and roles" approach developed in the brief from the University of Western Ontario, and found considerable support for such a concept from other institutions. In essence, the concept calls for system planning processes to begin with institutional initiative, designed to develop clear and specific statements of role and mission, in the areas both of instruction and research; and to state in appropriate detail institutional capacity to undertake such functions. It is recognized that when such planning proposals reach the system level, some adjustments and reconciliation will be required. Institutional aspirations may be in conflict, and clear provincial interests must be satisfied. Necessary adjustments could in the main be effected by consultation between a system-wide planning authority and the individual universities, under policy guidelines laid down by Government. However, in the event that agreement does not ensue, the IMB must have a clear enough mandate and authority to resolve the remaining differences. The IMB would for the most part develop system planning at a high level of generality, but in the case of certain professional programs or at the graduate level it would occasionally have to descend to more specific levels of decision making.

The Commission recommends, in the light of the above considerations, the immediate reconstitution of the OCUA (possibly with the title: "Council for University Affairs in Ontario") in the form set forth below.

5.1.2 *Terms of Reference*

In its deliberations regarding appropriate terms of reference for an IMB functioning in the Ontario context the Commission has greatly profited from its discussion with Professor Robert Berdahl. Following the analysis of Professor Burton Clark, Berdahl has pointed out that the co-ordination process should not be treated "too narrowly as a bilateral government-institutional relationship." In fact a proper balance among four essential modes of co-ordination is required. As Clark states it:

> *"All . . . systems involve all four of the major forms specified here and all four are apparently required for effectiveness. The special function of political coordination is to articulate a variety of public interests . . . as these are defined by prevailing groups within and outside of government. The special function of bureaucratic coordination is to compose a formal system out of fragmented parts and to provide fair administration. The function of academic oligarchy is to protect professional self-rule, to lodge the control of academic work, including its standards, in the hands of those permanently involved and most intimately connected with it. And the special function of the market is to enhance and protect freedom of choice, for personnel, clientele, and institutions, and thereby indirectly promote system flexibility and adaptability."*[17]

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17. R. O. Berdahl. "Universities and Society: Mutual Obligations." Address to the Ontario Economic Council, Toronto, Ontario, October 10-11, 1984. The reference to Clark is to a 1979 article, "The Many Pathways of Academic Co-ordination," *Higher Education*, Vol. 8, No. 3.

The terms of reference envisaged by the Commission in the light of such considerations call for the IMB in the first place to provide advice to the Minister on a variety of matters, including those currently undertaken by OCUA but incorporating as well the particular funding arrangements proposed in Section 4.0 above.

In addition, the Commission advises that major decisions should not be taken by Government in the absence of advice from the IMB, and therefore proposes a policy under which the Government would consult with the IMB prior to taking action. This would in practice be a "two-key" procedure under which such decisions would not lead to action until both the IMB and the Minister had rendered their conclusions on the matter.

Thirdly, the Commission advises that the IMB should be given a clear mandate for periodic review and reconciliation of institutional role statements and associated plans for the development of instruction and research in the light of established provincial objectives.

With a view to ensuring appropriate standards of program quality, especially at the graduate level, the Commission recommends that the IMB should monitor the COU system of graduate program appraisals, and if it should become necessary establish its own comparative appraisals process and method of reviewing the coherence of graduate programs in each institution.

Finally, the IMB should be charged with the responsibility of initiating studies related to the long-term development of the university system.

5.1.3 *Process*

With respect to process, the Commission urges that in strengthening system planning and in enhancing system differentiation the IMB should rely primarily on financial incentives and disincentives as opposed to dictate; and that the IMB (as already noted) should intervene in institutional plans only to reconcile conflicting aspirations or where there is a failure to satisfy a clear provincial interest. Co-ordination should as far as possible be at the institutional rather than the program level. It is recognized that occasionally exceptions will be necessary, in particular with respect to professional and graduate areas. Secondly, the Commission considers that the advice tendered by the IMB to the Ministry should be published at a time fixed by the Minister, but at a date not later than the end of the fiscal year within which it is given.

5.1.4 *Membership*

The Commission stresses the importance of establishing not only appropriate structures and procedures but also of ensuring that the membership of the IMB be of such a calibre that Government, the universities and the public can repose full confidence in its decisions. The Commission considers it essential that the members of the IMB be persons of marked ability, with a suitable background of knowledge and experience and a demonstrated record of public service, to be drawn both from within and outside the university community. The majority should be lay persons. No currently serving chief executive officer of a university or university board chairman should be eligible for appointment.

With respect to the size and composition of the proposed IMB, the Commission considered a range of alternatives. From one perspective, we see merit in a relatively small body of several highly knowledgeable persons able to devote a substantial amount of time to the IMB's duties. From another, we see advantages in a body of (say) fifteen or so which in its composition could be more adequately representative of the various groups which are "stakeholders" in the university enterprise. On balance we have concluded in favour of the smaller body as most likely to engage the full attention of its members, and accordingly suggest a membership of six.

Two members should be appointed from the ranks of the academic community following consultation with COU. Three should be appointed from such groups as labour, management, the professions, and community organizations, at least one of whom should have had previous experience as a university board chairman or chancellor. The IMB should be headed by a full-time chairman with previous university experience in some capacity, either academic or lay.

5.1.5 *Secretariat*

On the one hand, an IMB is an agency of government. On the other, it must engage in advocacy for the university system. Needless to say, such advocacy must be of a highly responsible type, incorporating only objective and carefully reasoned judgment resting on adequate investigation and research. No doubt the IMB will frequently be able to utilize research conducted by government agencies or the university collectivity. However, if it is to possess the credibility necessary to perform its tasks, it must have a high calibre staff of its own, capable of independent research, and one sufficiently large to cope with the enlarged planning and co-ordinating functions which the Commission believes it should assume.

5.1.6 *Advisory Committees*

The Commission is reluctant to be overly specific in suggesting what advisory committees the IMB will require, but it stresses the importance of an advisory committee structure which can draw heavily on

relevant expertise in the universities and elsewhere. We suggest, however, that the IMB should have an Academic Advisory Committee, dealing with programs, and charged with the review of mission statements, of enrolment levels, the monitoring of program evaluation and recommendations on program approvals, and advising on support and appropriate locations for specialized centres and institutes. It might also need a Research Support Committee, to advise on any newly emerging requirements in the area of research needs, or on other matters affecting the quality and scope of research. There should probably be a Finance Committee, to review and recommend on the operation of financing formulae and arrangements.

In addition, there will need to be committees with more specialized tasks. Among them might be a Committee on Bilingual Education, a Committee on Northern Universities, and a Distance Education Committee.

The IMB should also address the matter of forging appropriate links with business and industry, secondary education, with the community colleges, and with such governmental ministries as those responsible for health and manpower planning.

5.1.7 *Status of the IMB*

On the question of the *status* of the IMB, the Commission found that opinion was somewhat divided. Considerations can be advanced in favour of establishing the IMB by statute and also in favour of doing so by order in council. The Commission is inclined to the latter alternative, but stipulates that the terms of reference should be spelled out in sufficient detail to make clear to all concerned the precise responsibilities and scope of the IMB.

5.2 Northeastern Ontario

On April 19, 1984, the Chairman of the Commission received a letter from the Minister relating to the matter of the reorganization of the university system in Northeastern Ontario, and requesting that the Commission consider this question "in the context of its overall mandate to present to the government a plan of action to better enable the universities of Ontario to adjust to changing social and economic conditions."

The Commission examined available documentation on this topic, with particular reference to the proposals of the Parrott Committee and institutional reactions thereto. During our visit to Sudbury we were able to meet with the President of Laurentian and also the executive heads of the affiliated colleges whose status was affected by the Parrott Committee's recommendations. As it happens, all members of this group were newly installed in office, and all of them had reservations, of one kind or another, regarding the nature of the Parrott proposals. They have asked the Commission to consider an alternative method of proceeding to effect a reorganization of the system which would not entail the formal restructuring set forth in the Parrott Committee's report, yet which would both permit and require more effective co-operative action amongst themselves to serve the needs of the region more adequately.

Their proposal calls for the establishment of a "Northeastern Ontario University Council" of 16 members to be appointed by the Minister of Colleges and Universities, representative of the geographic regions of the area, of the various cultural groups, and of such bodies as the Ministry of Colleges and Universities, the Ministry of Northern Affairs, the Council of Regents of the Colleges, and the intermediary body.

Among the Committee's duties would be such functions as to develop and maintain an awareness of the special needs of the region for university services; to establish priorities among these needs; and to determine how they might best be satisfied by separate or co-operative action by the institutions.

Advice on the allocation of the additional funding to meet the special needs of Northeastern Ontario (as proposed in Recommendation 38) would be an appropriate function of this committee. If the availability of such funding were made conditional upon agreement by all institutions represented on the committee concerning its allocation this would provide a strong inducement to co-operation.

While envisaging that such a committee would be appointed by and report to the Minister of Colleges and Universities, the Commission advises that in the interests of province-wide inter-institutional planning and co-ordination, the Minister should secure the advice of the IMB prior to acting on the advice of such a committee. Our point here is that Northeastern university concerns cannot be wholly divorced from the operation of the system as a whole, and indeed several of our recommendations make specific reference to IMB responsibilities which would include taking into account the particular needs of Northern Ontario universities.

5.3 Northwestern Ontario

Lakehead University, though operating in a context in some respects quite different from that of the Northeastern system, nonetheless has suggested that the special problems of its part of the northern region also require more adequate attention and broader community input. Their proposal is for a committee composed of members elected by the Board of Governors, the Senate and the Student Union

of Lakehead University, representatives of the Municipal Advisory Council, the Chamber of Commerce, and Labour, the Native communities, the Ministry of Colleges and Universities, the Ministry of Northern Affairs, the Intermediary Body and the Council of Regents. The terms of reference for a "Northwestern University Committee" are set forth in Recommendation 45.

Recommendations 43, 44 and 45 in Section 7.0 (pp. 42-43) deal with the above topics.

6.0 FEDERAL-PROVINCIAL CO-OPERATION

As indicated in the conclusion of the June discussion paper, the Commission believes that in reviewing the future development of the universities of Ontario, we must do so not only from the perspective of the province but in terms of what our universities can do to promote the general development and welfare of Canada as a whole. Universities by the very nature of their functions in generating, preserving and transmitting knowledge, have a wider than provincial significance, a significance which is also national and indeed international. While education in Canada formally comes under the constitutional jurisdiction of the provincial governments, the role of universities in research, in contributing to social and economic development, in educating highly qualified manpower, and in facilitating equality of opportunity, makes them a national concern. Their full development, therefore, requires effective co-operation between the provincial and federal governments concerning the public definition of objectives and financial support.

Accordingly, the Commission urges the Government of Ontario to negotiate with the Government of Canada to seek agreement on the following six issues:

1) *The core funding of university instruction and research:*

Currently the core university activities of instruction and research are funded by the provincial governments assisted by federal transfers to the provinces under "Established Programs Financing" (EPF) arrangements. The present arrangement of unconditional transfers is in danger of eroding federal willingness to maintain them since that government has no assurance concerning the purpose for which these transfers will be used or the degree to which they will be matched by expenditures from provincial resources. In order to stabilize the EPF arrangements and to co-ordinate the long-run federal and provincial support of core funding for university instruction and research, the Commission urges the Government of Ontario to seek an agreement with the Government of Canada whereby the two orders of government would maintain an agreed ratio between the federal transfers and the provincial expenditures in support of core funding for universities, in which the provincial proportion would not be less than the current ratio.

2) *Support of resource-intensive research:*

Earlier in our report (in section 3.1.2), we emphasized the importance of support for resource-intensive research within the universities over and above the core instruction and related research covered by the EPF transfers. This is vitally important if our universities are to contribute to the technological growth and development of Canada. Currently, the direct costs of such research are being covered by the federal granting councils, namely, the Natural Science and Engineering Council, the Medical Research Council, and the Social Science and Humanities Research Council. If the national investment in research and development is to be raised from the current 1.2 per cent of GNP to the target of 2.5 per cent to which the Progressive Conservative Party committed itself in the 1984 federal election, then a significant increase in the federal allocations to the granting councils for their direct grants in support of university research will be required.[17] It is worth noting that the current comparable figure in both the United States and Japan is already 2.8 per cent.

In section 4.3.3 we have already addressed the particularly serious need for the federal and provincial government to provide adequate support for the indirect and infrastructure costs of research supported by the federal granting councils and by the agencies of both levels of government. Accordingly, we propose that the Ontario Government request the Government of Canada to provide to the universities support for the indirect costs corresponding to at least 50% of a rolling three-year average of the direct grants awarded to each institution by the federal granting councils.

3) *Establishment and support of centres of excellence:*

In recent years both federal and provincial governments have displayed an interest in the development of centres of excellence in order to facilitate academic concentrations in areas of intellectual and social importance. Private sector support of such centres should be encouraged to ensure that they are not reliant solely on governmental funding. Nevertheless, insofar as both orders of government are interested in encouraging the establishment and reinforcement of such centres, it is highly desirable that their decisions should be based on processes which include peer review judgments of relative quality rather than merely political considerations and that there be some co-ordination in the decisions taken by the federal and provincial governments. We, therefore, advocate a process in which either order of government, before establishing or making a financial award to a centre of excellence at a university, would obtain the advice of its own intermediary body (e.g., the IMB or a federal granting council using its own peer evaluation process), and that that body before rendering its advice would consult the appropriate intermediary body of the other order of government.

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17. *CAUT Bulletin*, August 1984, p. 11.

4) *A national income-based contingency loan plan:*

In an earlier section (4.3.1.3), we have proposed the establishment in Ontario of an income-based contingency loan plan to cover the increase in tuition fees proposed in that section. The arguments for such a plan are set forth in that section and in Appendix 4. It would, however, be preferable to establish a Canada-wide federal-provincial income-based contingency loan plan not simply to cover the portion of tuition fees represented by the increases, but to cover fully all tuition fees. We therefore urge that the federal and provincial governments working together develop such a plan.

5) *International Students:*

The current substantial differential in fees charged to foreign visa students appears to be resulting in a sharp reduction in the number of such students enrolled in Ontario universities. This is regrettable for two reasons. First, the education of such students represents a form of foreign aid to countries where comparable facilities for undergraduate or graduate education are not available. Yet it is understandable that a provincial government should feel that the cost of such aid is more appropriately a charge on the federal government. Secondly, as noted in section 3.2.3, the presence of some international students within our universities does contribute to the quality of the educational experience within Ontario universities.

Consequently, the Commission suggests that for foreign visa students up to a maximum of 5 per cent of total provincial enrolment, the Government of Canada assume, as part of its responsibilities for external affairs and foreign aid, the differential portion of the tuition fees. This would represent between 48 and 57 per cent of the total cost per foreign visa student in Ontario and require an estimated total expenditure of $25 million annually. At the same time the Government of Ontario would maintain its operating grant contribution at the current level, which represents about one third of the total cost per foreign visa student. The effect would be to remove the differential in fees for a specified quota of foreign visa students. The federal assistance could take the form of a number of scholarships or fellowships each valued at the amount of the differential portion of the tuition fees.

6) *A Standing Council on University Education and Research in Canada:*

Both the provincial governments with their constitutional responsibilities for education and the federal government with its interest in such national concerns as the contribution of universities to research, social and economic development, providing highly qualified manpower, and facilitating equality of opportunity, have a legitimate and joint interest in the development of our universities. The Commission is of the view that it would be highly desirable to establish a *Standing Council on University Education and Research in Canada* along the general lines recently advocated by W.C. Winegard before a meeting of the Association of Universities and Colleges of Canada. This Council would provide a forum for the reconciliation and co-ordination of provincial and federal priorities relating to universities. Such a Council might be composed of the Secretary of State for Canada, the Minister of Science and Technology for Canada, the Provincial Ministers of Higher Education and the President and Vice-President of the Association of Universities and Colleges of Canada. Committees of the Council might include public servants of the various ministries, chairmen of the federal granting councils and provincial intermediary bodies and representatives of the universities as appropriate. The proposed Council is urgently needed in order to provide a forum for the exchange and reconciliation of views necessary in order to replace the federal-provincial conflict of the recent past by co-operation in this area of such importance to the future development of Canada.

Recommendations 46-51 in Section 7.0 (pp. 43-44) present the Commission's views on federal-provincial co-operation.

7.0 LIST OF RECOMMENDATIONS

The first recommendation below conveys the judgment of the Commission as to the priority to be accorded to the maintenance and strengthening of the university system in both provincial and national contexts. The second outlines the general strategy which the Commission recommends to the Government of Ontario. Policy issues are dealt with in Recommendations 3 to 22. Recommendations 23 to 42 relate to financing; 43 to 45 to inter-institutional planning and co-ordination; and 46 to 51 to *federal-provincial co-operation.*

Recommendation 1

The Commission recommends that the maintenance and strengthening of a well functioning, high quality and broadly accessible university system be given a high provincial and national priority as a critical element in restoring growth and competitive vigour to the economy and society.

Recommendation 2

The Commission recommends that the Ontario Government adopt a general strategy for the development of Ontario's universities during the 1980's and 1990's involving the following elements:

1) a recognition of the vital importance of higher education, in an increasingly knowledge-based society and international economy, as an investment in the development of valuable human capital;
2) a recognition of the equally vital importance in such a context of university research as a base for the development and application of new knowledge;
3) having regard for the availability of resources, a greater emphasis during this period upon excellence and adaptability within the universities than upon accessibility;
4) the encouragement of further differentiation in the roles of the Ontario universities, through evolution within a competitive context, rather than by designation, in order to ensure appropriate concentrations of academic strengths in areas of intellectual and social importance and diversity of choice for students;
5) a recognition that there remain areas where enhancement of accessibility is desirable in the longer term;
6) the encouragement of closer linkages with and increased support from the private sector for the universities;
7) a revision of funding in such a way as to relate it more closely to institutional functions, and of inter-institutional planning and co-ordinating arrangements to facilitate this strategy.

RECOMMENDATIONS ON POLICY ISSUES

Quality

Recommendation 3

The Commission recommends that excellence in education and in research be the highest priority for both universities and Government and that public funding arrangements, institutional planning and co-ordination, university governance and staffing, and arrangements for admissions reflect this priority.

Recommendation 4

The Commission recommends that the capacity of Ontario universities to engage in important and rapidly developing new areas of resource-intensive research be given major reinforcement by both government and the private sector with particular emphasis on achieving concentration by institutional specialization and the development of co-operative facilities and networks.

Accessibility and Demand

Recommendation 5

The Commission recommends that planning, funding and staffing of Ontario universities take account of revised projections of the demand for full-time and part-time student places which indicate that at current participation rates there will be little slippage in demand over the remainder of the current decade and a likely peak in 1990-91 of total enrolment 8% above that in 1983-84.

Recommendation 6

The Commission recommends that arrangements be set in place immediately for close monitoring during the period 1984-88 of the impact of the new curriculum within the secondary schools in order to provide the universities and Government with an accurate forecast of the surge of enrolment which will occur in 1989-90 to 1992-93 under the impact of the double cohort.

Recommendation 7

The Commission recommends that the basic longer-run Government policy relating to general accessibility continue to be that no student who has the requisite capacity be deprived of the opportunity to find a place in some program of study in some university in Ontario, but not necessarily in the program or university of first choice.

Recommendation 8

The Commission recommends that admissions direct from secondary schools be based on a combination of teachers' marks and school reports and of province-wide admissions examinations assessing achievement in at least language (English or français) and mathematics, but that alternative arrangements for admission of mature students be continued.

Recommendation 9

The Commission recommends that in defining the roles of individual institutions and funding approvals for programs serious consideration be given to the regional dimension of accessibility, particularly in relation to the demand for part-time and continuing education. Such consideration is of especial importance in the case of women students, because of their general lack of geographical mobility.

Recommendation 10

The Commission recommends that academic programs in professional continuing education (upgrading and updating in the professions) be encouraged.

Recommendation 11

The Commission recommends that, in so far as additional resources can be made available either through reallocation within existing funding or by supplementary funding, steps be taken to improve accessibility by meeting more adequately the needs of the following groups:

1) the increasing number of students aged over 25;
2) women, particularly in those fields where their participation rate remains significantly below that of men;
3) Franco-Ontarians, including the development of specific arrangements for co-ordination among those institutions offering programs in French for Franco-Ontarians, the offering of more professional programs in the French language, and where numbers do not warrant establishing a program, the development of appropriate arrangements for Franco-Ontarians to pursue these programs in the French language universities elsewhere in Canada;
4) students arriving from French-immersion programs in Ontario schools;
5) those who live in remote areas such as Northern Ontario;
6) native people;
7) people from socially and economically disadvantaged backgrounds;
8) the handicapped.

Recommendation 12

The Commission recommends that arrangements be developed for closer co-ordination of the existing variety of distance education programs in Ontario.

Recommendation 13

The Commission recommends, in the interests of the quality of the educational experience within Ontario universities that:

1) there continue to be no differential fees levied on residents of other provinces studying in Ontario universities;
2) arrangements be adopted to ensure that the proportion of foreign visa students does not fall below 5 per cent of total enrolment. (For implementation see Recommendation 50).

Recommendation 14

The Commission recommends that universities in designing their undergraduate and professional program curricula seek a balance between general and specialized studies aimed at producing graduates who will be adaptable throughout their lifetimes and who will understand their own specialties within a wider context and in relation to new technological developments.

Recommendation 15

The Commission recommends, in view of the difficulties and risks in efforts to apply detailed manpower planning to the increase or reduction of capacity in professional programs and yet the need for responsiveness to the long-run needs of society, that intervention by Government or by an intermediary

body on its behalf, be applied only when the indications of increased or decreased demand are unmistakable and likely to be enduring, and that such interventions take the form of financial incentives or disincentives rather than regulation.

Adaptability

Recommendation 16

The Commission recommends that the funding formula be modified to remove the present disincentives for adaptability and to incorporate incentives stimulating new developments in both instruction and research. (For proposals for implementation see Recommendations 25 to 29.)

Recommendation 17

The Commission recommends that a major emphasis be placed upon the restoration to a more normal level of institutional capacity to appoint younger faculty. (For proposals for implementation see Recommendation 32.)

Balance and Differentiation

Recommendation 18

The Commission recommends that an adequate and coherent base of undergraduate programs in the liberal arts and sciences be available in each university.

Recommendation 19

The Commission recommends that in order to provide a capacity for response to new developments in areas of resource-intensive research, a balance be struck between encouraging greater specialization in particular fields in individual institutions in order to develop sufficient concentrations to sustain international levels of excellence, and avoiding overspecialization of institutions to a degree that would limit their future adaptability to changing and new opportunities.

Recommendation 20

The Commission recommends that, keeping in mind recommendations 18 and 19, further differentiation among the universities in Ontario in terms of institutional character, range and level of programs, and areas of specialization in research be encouraged so as to ensure appropriate concentrations of academic strengths in areas of intellectual and social importance and diversity of choice for students. Such differentiation of institutions should be achieved, not by formal designation or rigid formal categorization but by evolution resulting from institutional responses within a competitive context and stimulated by incentives in the financial system which reward excellence in education and research.

Recommendation 21

The Commission recommends that university governing bodies (boards, senates, governing councils) give particular attention to systematic reviews of the definition and implementation of the distinctive roles of their institutions.

Recommendation 22

The Commission recommends that universities ensure that there are regular reviews of all faculty and staff, including those with tenure, and that policies are in place which provide that research and study leaves are granted only to enable scholars to undertake significant work and that strict accountability is maintained for such leaves.

RECOMMENDATIONS ON FINANCING

Financing Strategy

Recommendation 23

The Commission recommends that, in support of the overall strategy proposed in Recommendation 2, the funding of universities involve the following elements:

1) an operating grant, distributed by a multidimensional formula, which universities may spend autonomously, subject to the checks for accountability to which all public bodies should be liable:
   a) the multidimensional character of the formula to recognize the need to fund according to function, taking account of the specific needs for support of both instruction and research;
   b) the formula to be related not only to enrolment but to be designed as well to incorporate incentives for excellence in instruction and research, for adaptability and for differentiated roles among institutions;

c) the funding arrangements to include both incentives within the formula and specific grants for the realization of specific public policy objectives;

2) a Renewal and Adjustment fund providing bridging financial assistance for faculty renewal and one-time costs for selected program adjustments;
3) a more adequate recognition of the capital requirements of the universities in order to ensure their capacity to maintain physical facilities and to adapt to new needs;
4) a larger proportion (up to 25 per cent reached over 5 years) of total educational costs to be covered by tuition fees in recognition of the added personal benefits that users receive, together with arrangements designed to ensure that this does not increase the financial barriers to accessibility;
5) a significantly larger measure of support from the private sector (corporations, alumni, individuals) for operating expenditures, research and capital.

Phase I Financing

Modification of Current Financing Techniques

Recommendation 24

The Commission recommends, in the interests of maintaining some continuity and of avoiding the risks of unintended and unforeseen consequences, that rather than adopting a completely new formula, the current funding formula be modified to incorporate the desired incentives.

Recommendation 25

The Commission recommends, in the interests of quality, adaptability, and the support of research, that enrolment variation be buffered by the establishment of a differential corridor system, the main features of such a system to be as follows:

1) all institutions would be allowed a corridor of insensitivity to enrolment changes (in BIU terms) of $\pm 4\%$, with a discount of 100% within this range;
2) those research-intensive universities in which federal research council grants exceed 10% of operating income on a rolling three-year average would be allowed an additional band of $\pm 2\%$, constituting a corridor of $\pm 6\%$;
3) those universities in which such grants exceed 15% of operating income on a rolling three-year average would be permitted an additional band of $\pm 4\%$, producing a corridor of $\pm 8\%$.

Recommendation 26

The Commission recommends, in the interests of enhanced instructional quality, that incentives be incorporated into the funding formula to provide:

1) a premium to be recommended by the intermediary body (IMB) (proposed in Recommendation 43) related to the fellowships won by an institution's graduating students in national competitions, as adjudicated by the three federal granting councils; and
2) a premium of $100 for each Ontario scholar attracted at the entrance level.

Recommendation 27

The Commission recommends inclusion in the formula of incentives to support specific public policy objectives. These incentives, as recommended from time to time by the intermediary body, would take the form of selective adjustments of funding discounts related to enrolment in order to:

1) provide incentives or disincentives for enrolment changes in specific program areas;
2) provide incentives or disincentives for the provision of programs for particular groups where improvement in accessibility is considered desirable;
3) sustain smaller institutions at viable levels.

Recommendation 28

The Commission further recommends that the IMB should investigate and if found desirable recommend changes in formula weights for such special purpose institutions as Ryerson and the Ontario College of Art to support their emerging functions.

Recommendation 29

The Commission recommends that in addition to such specific non-formula subsidies as those now obtaining for bilingual, northern and differentiated institutions, provision be made in support of public policy objectives for additional special discretionary grants to cover such developments as:

1) the start-up costs of specific projects for inter-institutional co-operation, including co-operative networks for instruction and research and co-ordinating arrangements for bilingual education and distance education;

2) the encouragement of excellence through limited term grants in support of programs and centres of excellence;

and that such support be financed by a special levy of 1% on the provincial operating grant.

Recommendation 30

The Commission recommends, as a component in the Phase I financing arrangements, that a sum of $10 million be withdrawn from global operating funds for capital purposes and earmarked for major maintenance, renovations and alterations of physical plant, to be allocated on the recommendation of the IMB.

Recommendation 31

The Commission recommends that institutional discretion in relation to formula fees be increased from 110% to 118%. Concurrently, a sum of $5 million, equal to one-third of the increased revenue, would be withdrawn from global operating funding and added to the grant portion of the Ontario Student Awards Program (OSAP).

Renewal and Adjustment Fund

Recommendation 32

The Commission recommends the establishment of a Renewal and Adjustment Fund with three components, to be allocated on the recommendation of the IMB:

1) A faculty renewal bridging component directed to system renewal, quality and adaptability and to meet both the enrolment pressures of the later years of the present decade and the staffing requirements of the 1990's. This fund would make possible the appointment over the next five years of approximately 550 younger faculty and 440 additional support staff, in accordance with the cash flow requirements of $152 million set forth in Appendix 2.
2) An institutional and program adjustment component of $20 million on a one time basis to meet the costs of program adjustments including special cases of early retirement, and faculty and staff relocation and retraining.
3) A fund of the order of $24 million over the period 1985-89 to offset, in the absence of "notwithstanding legislation", the impact on retirement patterns of the coming into effect in April, 1985, of the provisions in the Charter of Rights relating to discrimination on the basis of age.

Phase II Financing

Recommendation 33

The Commission recommends that to enhance instructional and research quality, the sum of $25 million be withdrawn from the formula grant and earmarked for libraries and equipment to be allocated on the basis of procedures set out by the IMB.

Recommendation 34

The Commission recommends that a sum of $11 million be restored to total annual Basic Operating Income in order to offset the compression in normal funding made necessary by continued operation of the 1% levy proposed in Recommendation 29.

Recommendation 35

The Commission recommends, with a view to restoration of accessibility, that the corridor mean (as set forth in Recommendation 25) be raised by 4% in order to counteract the incentive provided in Phase I to reduce enrolment to that extent. The estimated cost of such restoration of accessibility is $55 million.

Recommendation 36

The Commission recommends that the increase in system Basic Operating Income required to meet Recommendations 33, 34 and 35 be provided by a progressive increase in formula tuition fees over a four year period subsequent to the introduction of the increase proposed in Recommendation 31.

In the first year of this period, differential formula fees would be introduced involving adoption of ratios in the following pattern:

Group I	(1.00):	for all direct entry programs
Group II	(2.00):	second level entry professional programs except in clinical disciplines
Group III	(3.00):	second level entry professional programs in clinical disciplines
Group IV	(1.50):	doctoral stream including masters
Group V	(0.50):	interns and residents

Such increases are intended to absorb current separate academic incidental fees.

In the subsequent three years, all formula fees would be progressively raised by an annual average of approximately 8% (over and above those increases necessary to match annual increases in the provincial grant) until system tuition fee income reaches 25% of system Basic Operating Income.

Recommendation 37

The Commission recommends that in order to avoid increased financial barriers to accessibility, implementation of the four-stage formula fee increase described above be conditional on the introduction of an income-based contingency repayment loan plan for these fee increases.

Recommendation 38

The Commission recommends that to meet the special needs of universities in Northeastern and Northwestern Ontario, supplementary funding be provided by the Ministry of Northern Affairs. As part of meeting these needs and in view of the importance of maintaining on a part-time basis advanced degree capability in professional areas in Northern Ontario, the Commission also recommends that appropriate mechanisms be established to facilitate support for such programs by institutions in Southern Ontario working collaboratively with institutions in Northern Ontario.

Recommendation 39

The Commission recommends that, to make adequate provision for items of major maintenance, renovations and alterations over and above the level proposed in Recommendation 30, an additional annual appropriation of $26 million be provided, and that the annual allocation for new construction be maintained at least at $20 million.

Recommendation 40

The Commission, having regard to the importance both nationally and provincially of enhanced support for resource-intensive research, as distinct from research directly related to education, and having in mind also the urgent need to meet the indirect costs of such research, recommends that:

1) the Province ask the federal government to provide overhead costs for grants from the federal granting councils, by block grants to institutions based on 50% of the average of the direct grants received in the preceding three years from the federal granting councils by each institution. (Based on the latest figures available, those of 1982, the requirement would be $71.4 million.)
2) in order to cover the marginal costs of faculty time in such research, the Province make an additional annual allocation equivalent to 38% of the average of the direct grants received in the preceding three years from the federal granting councils by each institution. (In relation to the 1982 grants, this sum would be $54 million.)
3) contract research undertaken on behalf of federal or provincial government departments be supported by full coverage of indirect costs at the rate of 117% of direct costs.

Recommendation 41

The Commission recomends that when the total of such additional grants in support of resource-intensive research (proposed in Recommendations 40 (1) and (2)) exceeds $33.5 million, the additional corridors of enrolment insensitivity proposed in Recommendation 25 (2) and (3) be rescinded in order to restore incentives for accessibility to previous levels.

Recommendation 42

The Commission recommends that greater private sector support and university initiative in seeking such support be encouraged by the following measures:

1) by encouraging donations from corporations, alumni and individuals for operating expenditures as well as capital;
2) by providing incentives for industry-university links including the enhancement of recently announced matching arrangements;

3) by requiring full coverage of indirect costs for all contract research at the rate of 117% of direct costs;
4) by providing incentives both for donations and cooperative research through changes in the tax regulations.

RECOMMENDATIONS ON INTER-INSTITUTIONAL PLANNING AND CO-ORDINATION

The Intermediary Body

Recommendation 43

The Commission recommends that an intermediary body (IMB) be established as follows:

1. *Terms of Reference*
   a) *Advice to the Minister*

   The IMB shall be charged with the responsibility of advising the Minister of Colleges and Universities on all matters of general policy involving one or more universities or the system as a whole including:
   - the level of operating funds required;
   - the allocation of operating funds including general funding formulae and adjustments to funding incentives;
   - the requirements for and allocation of capital funding;
   - student aid;
   - tuition fee structures and levels;
   - the eligibility of programs and institutional enrolment for government funding;
   - the eligibility of professional programs and enrolment for government funding and the adjustment of funding incentives for enrolment in such programs;
   - measures required to facilitate, where necessary, rationalization of program offerings;
   - policies governing the allocation of the Renewal and Adjustment Fund;
   - establishment of and support for any special centres of excellence or institutes;
   - policies governing the grants to support specific public policy objectives, such as special extra-formula subsidies for bilingual and northern institutions, differentiation grants, co-operative networks, inter-institutional co-operation, encouragement of programs of excellence, and the like;
   - policies relating to the encouragement of private sector support.

   b) *Government Consultation with the IMB*

   In the interests of effective province-wide planning and co-operation, prior to taking any major decisions on such matters as the above the Government should obtain the advice of the IMB.

   c) *Planned Roles and Capacities*

   The IMB should be given a clear mandate for periodic review and reconciliation of institutional role statements and associated plans for the development of instruction and research in the light of established provincial objectives.

   d) *Program Quality*

   With a view to ensuring appropriate standards of program quality, especially at the graduate level, the IMB should monitor the COU system of graduate program appraisals, and if necessary establish its own comparative appraisals process and method of reviewing the coherence of graduate programs in each institution.

   e) *Studies*

   The IMB should be charged with the responsibility of initiating studies related to the long-term development of the university system.

2. *Publication of Advice*

   Advice tendered by the IMB to the Minister should be published at a time fixed by the Minister, but such publication should be at a date not later than the end of the fiscal year in which it is given.

3. *Membership*

   a) *Qualifications of Members*

   In appointing members to the IMB, care should be taken to select persons of marked ability, with suitable backgrounds of knowledge and experience and a demonstrated record of public service. They should be drawn both from within and outside the university community. The majority

should be lay persons. No currently serving chief executive officer or university board chairman should be eligible for appointment.

b) *Composition of the IMB*

There should be six members selected as follows:

- two members from the ranks of active academics or academic administrators, following consultation with COU;
- three members from such sectors as labour, management, the professions, and community organizations, at least one of whom should have had previous experience as a university board chairman or chancellor;
- the Chairman of the IMB should serve full-time, and should have previous university experience in some capacity, either academic or lay.

4. *Secretariat*

The IMB should be supported by a high quality staff, independent of civil service regulations, and sufficient in number to undertake substantial in-house research.

5. *Advisory Committee*

The IMB should establish appropriate advisory committees which would draw heavily on relevant expertise in the universities and elsewhere.

6. *Status*

The IMB should be established by order in council, but such an order should spell out in adequate detail its areas of responsibility and authority.

Northeastern Ontario University Committee

Recommendation 44

The Commission recommends, in the matter of the reorganization of the university system in Northeastern Ontario that the Government give careful consideration to a proposal of the type advanced by Laurentian University and its Affiliated Colleges, namely the creation of a Northeastern Ontario University Committee, to be appointed by and report to the Minister, and to have responsibility for advising the Minister as to the special needs of the region for university services, for recommending priorities among these needs and for advising the Minister with respect to the allocation of any special funding set aside for its activities. The Commission observes, however, that in the interests of effective province-wide inter-institutional planning and co-operation, the Minister should secure the advice of the IMB prior to acting on the advice of the Committee.

Northwestern Ontario University Committee

Recommendation 45

The Commission recommends the estabishment of a Northwestern Ontario University Committee composed of representatives of the university community, the regional community and the Ministry of Northern Affairs, the Ministry of Colleges and Universities, the IMB and the Council of Regents, which would undertake to develop an awareness of the special needs of the region for university services particularly in relation to special access, program and research needs relating to the role within this region of Lakehead University and of other Ontario universities in collaboration with it, and would advise the Minister and through the Minister appropriate other Ministries on the allocation of funds available to meet these specific needs. The Committee would report to the Minister, but in the interests of effective province-wide inter-institutional planning and co-ordination, the Minister should secure the advice of the IMB prior to acting on recommendation of the committee.

RECOMMENDATIONS ON FEDERAL-PROVINCIAL CO-OPERATION

Recommendation 46

The Commission recommends, in the interests of co-ordinating the long-run federal and provincial support of core funding for university instruction and research, that the Government of Ontario seek an agreement with the Government of Canada whereby the two orders of government would maintain an agreed ratio between the federal transfers for post-secondary education and provincial expenditures in support of core funding for universities, in which the provincial proportion would not be less than the current ratio.

Recommendation 47

The Commission recommends, in order to ensure adequate support for the indirect costs of resource-intensive research over and above that directly related to instruction, that the Government of Ontario seek the agreement of the Government of Canada to the implementation of Recommendation 40 (1).

Recommendation 48

The Commission recommends that the Ontario Government negotiate with the Government of Canada an arrangement whereby either order of government, before establishing or making a financial award to a centre of excellence at a university, would obtain the advice of its own advisory intermediary body (e.g., the IMB or a federal granting council), and that that body, before rendering its advice, would consult the appropriate intermediary body of the other order of government.

Recommendation 49

The Commission recommends that the Ontario Government raise with the Government of Canada for serious consideration the development on a national basis of a federal-provincial income-based contingency loan repayment plan to cover fully all tuition fees.

Recommendation 50

The Commission recommends that the Government of Ontario ask the Government of Canada to assume, as part of its responsibilities for external affairs and foreign aid, the differential portion of the tuition fees of foreign visa students up to a maximum of 5 per cent of total enrolment in Ontario universities, at an estimated cost of $25 million annually.

Recommendation 51

The Commission recommends, in the interests of better co-ordination of federal and provincial policies relating to higher education and research, that the Ontario Government actively pursue with the Government of Canada, the provincial ministers responsible for higher education, and the Association of Universities and Colleges of Canada, the creation of a *Standing Council on University Education and Research in Canada* which would be composed of the Secretary of State for Canada, the Minister of Science and Technology for Canada, the appropriate Provincial Ministers of Higher Education, and the President and Vice-President of the Association of Universities and Colleges of Canada.

DIFFERENTIAL CORRIDORS

1.0 Introduction

In Phase I financing where the current level of real aggregate funding is maintained the Commission has recommended the adoption of differential corridors within which university funding would be insensitive to enrolment. In order to implement this recommendation, it is necessary to specify how such corridors will be determined and what funding mechanism will come into play outside these corridors. This Appendix presents the method to be used.

2.0 Determination of Corridors

2.1 *Base Line for Corridor*

The base line about which the corridors will be set is the total undiscounted B.I.U. count for each institution for the 1984-85 year. Although some thought was given to taking the average over the past several years, given the enrolment growth experienced by most institutions over the period it was decided that the most recent year should be used.

2.2 *Determination of Ongoing Enrolment*

Enrolment in any given year will again be determined on the basis of total undiscounted B.I.U.'s. The determination of whether an institution's enrolment falls within or outside the corridor set for that institution will be based on a rolling three year average. That is, the total undiscounted B.I.U.'s (graduate and undergraduate) will be averaged over the most recent three years. Thus in 1985-86 the enrolment will be taken as the average over the years 1982-83, 1983-84 and 1984-85.

In order not to penalize institutions who wish to grow, or favour those which wish to shrink, undiscounted B.I.U.'s must be used. Otherwise, an institution in the 4% corridor, for example, could reduce enrolment by 8% without suffering a penalty, or alternatively would receive no additional funding until growth exceeded 8%.

At the same time, it was felt that some smoothing should occur to prevent institutions from flipping in and out of the corridors. Thought was given to determining eligibility on the basis of two consecutive years outside the corridors, but in the end it was decided that the three year rolling average was best.

2.3 *Funding Outside the Corridor*

Once an institution's enrolment lies outside the corridors established for it then the institution will receive additional or reduced funding, depending upon whether its enrolment rises above or falls below the corridor. It is proposed that this base funding, as distinct from funding in support of instructional excellence and of research, and specific nonformula items, be determined according to the current formula in operation for 1984-85. Once an institution's enrolment falls outside its corridor the formula will apply just as if the corridors had not existed.

3.0 Eligibility for Differential Corridors

The proposal for establishing corridors calls for differential corridors related to the extent to which institutions engage in resource-intensive research. Determination of an institution's eligibility for wider corridors is based on the fraction that the total funds received from the federal granting councils are of the institution's operating revenue (the first column under 'General Funds' in the COFO report).

Institutions whose total grants exceed 10% of their operating revenues will have their enrolment insensitive corridors increased to $\pm 6\%$ while those whose grants exceed 15% of operating revenues will have the corridors increased to $\pm 8\%$. To be eligible, an institution's grants, averaged over three years, will have had to exceed the set limits.

This average will be a rolling one so that it will be possible for institutions to change category over time.

4.0 Determination of Base Grant

The Commission's proposals with respect to funding call for a multidimensional formula with portions of the grant being related to instructional quality and special institutional programs and characteristics. In addition, some monies will be available for extra-formula discretionary grants. In the interests of continuity, however, it is proposed that the base grant continue to be determined by the current formula in operation for 1984-85.

Thus, in arriving at its recommendation to government on the allocation of funds in any year, the IMB would recommend the proportion of total funding to go to each of:

(i) base funding
(ii) enhanced institutional quality
(iii) provision of incentives
(iv) discretionary grants

Provided all institutions had enrolments lying within the enrolment insensitive corridors pertinent to each institution, then the base grants would be distributed under the rules of the current formula. In the event that some institutions had enrolments outside the corridors then the distribution would be modified as outlined in section 2.3.

RENEWAL AND ADJUSTMENT FUND

1.0 Introduction

One of the most positive steps that could be taken to enhance vitality and adaptability in the university system would be the infusion of substantial numbers of new young faculty. Such an infusion would have at least three benefits. In the first place, it would immediately allow some of our most able young minds to embark on academic careers with a consequent introduction of new ideas. Secondly, it would provide capacity to permit universities to accommodate the enrolment bulge expected with the introduction of the revised secondary school curriculum. Thirdly, it would allow for the gradual introduction of new faculty required to replace the larger than normal retirements anticipated in the mid-nineties. This would avoid a repetition in the early part of the twenty-first century of the present distorted age profile of faculty.

2.0 Proposal

If the faculty age distribution were uniform then new faculty could be appointed to replace retirees at an annual rate somewhat in excess of 2.5% of total complement. Recognizing that resources are limited, and that if additional faculty are to be appointed some provision must be made for the hiring of additional support staff, the Commission recommends that:

1) funds be made available to permit the system to appoint new faculty at a rate of 2% of the present complement, this 2% to be a combination of replacement of retirees and the appointment of additional faculty;
2) additional faculty appointed in any year be supported for a period of five years after which their compensation would be the responsibility of the universities;
3) new appointments under the scheme be made for a period of five years from 1985-89, which implies that funds would be required over the period 1985-93;
4) in the case of *additional* faculty appointments, as opposed to replacements, support staff be provided in the ratio of 0.8 per faculty member, funds for these support staff also to come from the Renewal and Adjustment Fund;
5) universities have access to renewal funds by presenting specific proposals to the IMB for approval;
6) an additional amount be included in the Renewal and Adjustment Fund to cover one-time costs of program adjustments leading to early retirement, relocation and retraining. These too would come under the jurisdiction of the IMB.

3.0 Derivation of Personnel Numbers and Size of Renewal Fund

In deriving estimates of numbers and costs, the following data were available, or assumptions were made:

1) The age distribution of faculty was taken as that reported to the Statscan Universities and Colleges Academic Staff System (UCASS) in 1983.
2) In determining the number of faculty reaching age 65 each year no attrition or addition to each age group was assumed.
3) Replacement faculty would only come from those reaching age 65. (See Section 4.0 below.)
4) In estimating costs the salary data from the 1983 UCASS file were used.

Under these assumptions Tables 1 and 2 display the number of additional faculty and staff that would be made available to the system.

Table 1 Faculty Appointments

	Appointments Replacing Retirements	Additional Appointments	Cumulative Totals of Additional Appointments
1985	81	180	180
1986	141	120	300
1987	138	123	423
1988	188	73	496
1989	204	57	553

Table 2 Support Staff

	Additional Faculty	Additional Support Staff	Cumulative Totals of Support Staff
1985	180	144	144
1986	120	96	240
1987	123	98	338
1988	73	58	396
1989	57	45	441

If one applies to these numbers a cost in salary and benefits for faculty at $33,900 per annum, and for support staff at $26,500, the cash flow to support this proposal is as displayed in Table 3 below.

Table 3 Cash Flow Required

	Faculty		Support Staff		Total
	Cumulative Numbers	Cost	Cumulative Numbers	Cost	Costs
1985	180	6,102,000	144	3,816,000	9,918,000
1986	300	10,170,000	240	6,360,000	16,530,000
1987	423	14,339,700	338	8,957,000	23,296,700
1988	496	16,814,400	396	10,494,000	27,308,400
1989	553	18,746,700	441	11,686,500	30,432,200
1990	373	12,644,700	297	7,870,500	20,515,200
1991	253	8,576,700	201	5,326,500	13,903,200
1992	130	4,407,000	103	2,729,500	7,136,500
1993	57	1,932,300	45	1,192,500	3,124,800

The total cost of this proposal is $152 million. If this flow were discounted at 10% the amount required in 1985 would be $108 million. If a further $20 million is added for one-time costs of program adjustments the total required for a Renewal and Adjustment Fund would be $128 million, which could be met either by a one-time allocation or by a cash flow of the type indicated in Table 3.

4.0 Commentary

4.1 *Attrition*

In arriving at the numbers of young faculty that would be provided as replacement and those provided from the renewal fund it was assumed that attrition could be ignored and that replacement faculty numbers would correspond to the numbers reaching age 65. Of course, attrition takes place — the most recent data suggest a figure of under 4 percent for the system — with the bulk of it taking place below age 45 and about 0.5 percent being accounted for by those age 55 or over.

It should be noted, however, that in most cases of attrition, there is a requirement to replace the individual with another specialist with roughly the same qualifications. This seems to be borne out by an examination of new appointments which spread quite widely across the age spectrum, although the lower age groups have the largest representation. The extent to which attrition leads to appointments other than replacement appointments should offset the reduction in replacement appointments due to the effect of attrition in reducing the number of faculty below that assumed to reach age 65.

4.2 *Cost Data*

The 1983 UCASS data show an average salary range for faculty age 32 and below of $24,500 to $32,000. The salary figure of $30,000 used to arrive at the salary and benefits figure of $33,900 is therefore conservative and by 1985 might be increased by 5%.

One further point might be made with respect to costs. It might be argued that the savings resulting from replacing higher paid retiring faculty with lower paid junior faculty should help offset the cost of the adjustment fund. The fallacy of this argument, however, lies in the skewed age distribution of faculty which the addition of new faculty is attempting to correct. If a uniform age distribution pertained, then there would be no need for the Renewal and Adjustment Fund and furthermore the savings from retirements would be sufficient to provide for progress through the ranks. The current skewed distribution of faculty age means that insufficient funds are available to cover promotion payments. While not agreeing completely with the data presented in the COU brief to the Commission, which suggests that by 1985 faculty salaries will have increased by 4% and by 1989 by 10% without additions to complement, it seems clear to the Commission that the universities must at the very least retain the savings from retirements.

5.0 The Effect of the "Double Cohort"

The latest revisions to the enrolment projections of the COU Committee on Enrolment Statistics and Projections (CESP), which were included in the COU brief to the Commission, are generally regarded as the best available though some have suggested that they might be conservative. These data indicate that during the period 1988-92 the system enrolment will increase beyond its present level and peak in 1990-91. It is estimated that at least 900 additional faculty would be required to cope with the surge in enrolment just to maintain the present high student faculty ratio. The proposed additions under the renewal fund are significantly less than this but it is felt that since the phenomenon is short term in nature the universities should be able to deal with it given the suggested addition of 550 faculty.

If these additional faculty are provided, and if during the cohort bulge the corridors insensitive to enrolment are in place, then some change should take place in these corridors so that intake is increased to accommodate the bulge. It is proposed, provided the additional faculty are in place, that the mean about which the corridors are effective be increased to parallel the bulge.

6.0 Support of Faculty After the Adjustment Fund

It is necessary to check that, as the Renewal and Adjustment Fund ceases to provide funds for support of the added faculty, the universities will have sufficient resources to cover the salary and benefit costs. Table 4 below indicates that this should present no problem as the number of retirees exceeds the number of faculty to be supported.

Table 4 Salary Support of Added Faculty

	Number of faculty to be supported		*Number of faculty retiring*	
	Annual	Cumulative	Annual	Cumulative
1990	180	180	262	262
1991	120	300	263	525
1992	123	423	256	781
1993	73	496	340	1121
1994	57	553	324	1445

Unfortunately, age distribution data are not available for support staff for the system. What data are available from individual universities together with the fact that turnover is much higher in the support group suggest that there would not be a problem in this case either.

7.0 Charter of Rights

All of the above derivations have been based on compulsory retirement at age 65. When the provisions in the Charter of Rights come into effect in April of 1985, the pattern of retirements may well differ. Some preliminary data obtained from the University of Manitoba suggest the following model as a possible pattern of retirements.

- 33.3% of all faculty eligible to do so retire at or prior to age o5
- 16.7% of all faculty eligible to retire at age 65 retire at age 66
- 12.5% of all faculty eligible to retire at age 65 retire at age 67
- 12.5% of all faculty eligible to retire at age 65 retire at age 68
- 12.5% of all faculty eligible to retire at age 65 retire at age 69
- 12.5% of all faculty eligible to retire at age 65 retire at age 70

Table 5 below indicates the effect of this model on the number of positions opened up through retirement.

Table 5 Retiring Faculty

	Mandatory at age 65	Assumed Retirement Non-Mandatory	Cumulative Difference
1985	81	27	54
1986	141	60	135
1987	138	101	172
1988	188	114	246
1989	204	144	306

It is proposed that the renewal fund remain in place to provide an additional 553 new young faculty. These will then be available to deal with the double cohort. The difference will be in the total number of new young faculty which will drop from 1305 to 999 since 306 fewer replacement positions will be available.

Finally, the retention of older faculty, even though they receive no promotion increases, will mean that less monies will be available to the universities to cover the cost of progression-through-the-ranks (PTR). Table 6 below provides an estimate of this reduction.

Table 6 Estimate of Added Cost of Charter of Rights

Number of faculty staying beyond 65

	Annual	Cumulative	Cost $(000)
1985	54	54	2,106
1986	81	135	5,265
1987	37	172	6,708
1988	74	246	9,594
1989	60	306	11,934

Thought has been given to covering these costs from the Renewal and Adjustment Fund since, as has already been indicated, universities will have difficulty in meeting PTR requirements even without this additional burden. Assuming that continuing faculty might carry a reduced workload, 2/3 of these annual amounts might be added to the cash flow requirements or $24 million added to the lump sum.

FEE SCHEDULE

1.0 Introduction

The revised fee schedule proposed by the Commission has two objectives:

1) to make more funds available for the enhancement of quality of instruction and improved accessibility; and
2) to increase the proportion of educational costs borne by the user.

If it is assumed that the additional resources required to meet the urgent needs for programs of higher education identified by the Commission cannot be met by increased provincial grants, then increased fees are an alternative source.

2.0 Proposed Fees and Their Distribution

In all of what follows, it is assumed that the existing formula fees will be increased each year by the same proportion as increases in the grant as an offset to inflation. Thus when the phrase "formula fee" is used, one should read "formula fee adjusted for inflation."

2.1 *Discretionary Increase*

The first fee increase would permit all institutions to charge up to 118% of the formula fee. This represents a 7% increase in fee income beyond the present maximum of 110% of formula fee. Institutions would retain these increased fees. In calculating the operating grant the nominal formula fees would be subtracted from the Basic Operating Income (B.O.I.).

If all institutions exercised this option approximately $15 million in additional funding would be available to them. It is proposed, in this instance, that the Province reduce its operating grant by $15 million from that which would otherwise be available, and allocate $5 million to the grant portion of OSAP and $10 million to university capital grants.

2.2 *Differential Fees*

As a second step a revised fee schedule with greater differentials among programs would be introduced as follows:

1) A standard fee would be set for all direct entry programs which would be the B.A. formula fee current at that time.
2) Differential fees for other programs would be set in a fixed relation to this fee as follows:

Group I	All direct entry programs	1.00
Group II	Second entry professional programs except those involving clinical disciplines	2.00
Group III	Second entry professional programs in clinical disciplines	3.00
Group IV	Doctoral stream including masters	1.50
Group V	Interns and residents	0.50

Universities would continue to have the option of charging 118% of the established fee. Again institutions would retain these increased fees. In order that the additional income be retained by the universities, it would be necessary when calculating the operating grant to subtract from B.O.I. the formula fees in effect prior to the introduction of these differential fees, but see section 3.0 of this Appendix.

It is recognized that if this is done the preponderance of additional income resulting from the introduction of differential fees will flow to those universities with the larger fraction of enrolment in Groups II, III, and IV.

2.3 *Phased Increases*

Subsequent to the introduction of the differential fees, fees for all groups would be increased proportionately over a three year period so that by the end of the period, fees in total account for 25% of operating revenue.

Again, institutions would retain the increased fees while in calculating grants the fees subtracted from the B.O.I. would be the formula fees in effect prior to the introduction of the differential fees. During this phase all institutions will benefit from the increase in fees.

The additional income available from the increases proposed in sections 2.2 and 2.3 above would be between $150 and $151 million. It is proposed that approximately $60 million of this be used to subsidize a contingent repayment loan plan with $91 million being used to enhance quality and restore accessibility as outlined in section 4.3 of the main report.

3.0 Suggested Simplification

The complexity introduced in sections 2.2 and 2.3 by the need to establish one set of fees for students while subtracting a different set of fees for the calculation of operating grants is a direct result of the current mechanism for determining operating grants. This procedure includes fees in the determination of the B.I.U. but then excludes them in determining the operating grants. While such a procedure effectively gives the Province control over fees, it would be much simpler if the setting of fees were divorced from the calculation of grants.

It is proposed that if the revised fees of section 2.2 and 2.3 are implemented, then the following procedure be adopted:

1) The Province would establish an approved schedule of fees with a discretionary band (plus 18% is proposed but it could be $\pm$18%).
2) The Province would determine the global amount of the grant. This amount would then be distributed to institutions on the basis of eligible B.I.U. count.
3) An institution's reception of the grant would be conditional on its fees lying within the established bands.
4) Institutions would retain the fees collected.

The one remaining point concerns additional Visa Student Fees. So long as these remain in effect, institutions would have to report the additional fees collected and, as at present, the resulting pool would be redistributed to institutions.

INCOME CONTINGENT REPAYMENT LOAN PLAN

1.0 Introduction

Appendix 3 has outlined the Commission's proposals for a phased increase in tuition fees which are aimed at increasing the funding for universities while recognizing the added personal benefits that users of the university receive. Since it is important that such increases not heighten the financial barriers to accessibility it is essential that any fee increases be accompanied by increased student support. In the first phase of the fee increase, this support would be provided by diverting one third of the increased income to the grant portion of the Ontario Student Assistance Program (OSAP). In subsequent phases it is proposed that the support be provided by an income-contingent repayment loan plan. The following note outlines the main features of this plan.

2.0 Why an Income-Contingent Repayment Loan Plan?

Contingent repayment assistance plans have a number of advantages compared with either grant or loan financing. From a student viewpoint, the repayments are geared to an ability to pay, so that unlike a fixed repayment loan they do not impose a burden on earnings when the graduate is least able to pay. From the general public's viewpoint, such a plan reduces the taxation burden for those persons who do not participate directly in the university system. From government's viewpoint, the plan can be set up so that it does not add to government indebtedness.

3.0 Scope of the Plan

The plan would be available to all eligible students at an approved Ontario university (including Ryerson and OCA). Initially the plan would cover only the increase in fees subsequent to the first discretionary increase. That is, the existing OSAP plan would continue and the contingent loan plan would be a supplementary plan. There would be no means test involved — all students would be eligible to participate. It is envisaged that eventually the loan portion of the present OSAP plan would change from its present fixed term form and become part of the contingent loan plan — but see 4.0 and 5.0 below.

4.0 Financing of the Plan

It is intended that the plan not appear as an item on the provincial government's balance sheet so that the funds required to initiate the plan would be raised on the bond market. Insurance companies and pension funds are seen as the institutions most likely to be interested in such an investment. It is intended that the interest rate charged borrowers be lower than that available on the open market. At the same time it is necessary that the return to investors be made attractive. This implies some subsidy of interest charges. Rather than ask government to provide such a subsidy, it is proposed that the universities divert some of the increased revenue they receive to providing the necessary subsidy. Initial estimates suggest that if the universities diverted roughly one third of the increased income this would be sufficient to pay all interest (and some principal) in the early phases and subsequently cover the interest subsidy.

In the event that the loan portion of the existing OSAP were incorporated in the contingent loan plan then the funds required would be much greater, particularly if there were an increased participation rate by students due to the lack of a means test. The vast majority of the loan funds under OSAP are supplied by the federal government and presumably the Province would negotiate for their continuance. It is proposed that the grants portion of OSAP continue and the Province would continue to be liable for this amount.

Conversion of all loans to an income-contingent repayment plan would confer advantages on the student. It must be recognized that universities could only continue to subsidize interest payments on the increased fee portion of the loans. If interest subsidies were provided for all the loans then it would have to be provided by government.

5.0 Administration of the Plan

It is proposed that the chartered banks would be the agents for the scheme as they currently are for OSAP. In addition a provincial agency would serve to consolidate the individual loans into larger denominations which would then be marketed to institutional investors. Repayment would be as outlined below.

6.0 Repayment Provisions

It is proposed that the graduate would only start repayment provided his or her income exceeded a certain minimum amount and then repayment would be a percentage of annual gross income. The payments would be made in conjunction with income tax and it would be necessary to add a sub-section to the Ontario residents' section of the income tax form. In the event that the system was adopted nationally then the sub-section could appear in the federal tax. This would have the advantage of effecting recovery from graduates emigrating from Ontario to other parts of the country.

7.0 Further Development

The Commission has carried out sufficient calculations to indicate that its proposals are feasible. Further work entailing detailed modelling is required to determine precise limits on the interest subsidy and repayment schedules while the administrative arrangements also require clear specification.

CAPITAL CONSIDERATIONS

1.0 Introduction

It is useful to think of university expenditures on physical plant as falling into four categories. These are:

1) Minor renovations and furnishing maintenance and replacements.
2) Major maintenance, renovations and alterations.
3) Additions to existing capital stock and building replacement.
4) Equipment replacement.

Brief comments follow under each heading.

2.0 Minor Renovations and Furnishing Maintenance and Replacements

Expenditures in this category should be met from operating funds. On the advice of OCUA, the Ministry added some $5.8 million to operating funds in 1977-78 as a non-earmarked supplementary grant for minor (under $30,000) renovation and alteration projects. This amount, though not identified, has escalated each year with the increase in operating grants so that by 1984-85 the imputed amount within the operating grant is $9.3 million. In addition to this amount, institutions should already have been devoting a portion of their operating funds to furniture and equipment maintenance and replacement.

Despite the pressure for other expenditures from operating funds, most universities have been acting responsibly in allocating a reasonable portion of their funds to meet these expenditures. Indeed some universities have financed projects in excess of $30,000 from their operating funds. Such projects are eligible for capital support but because of restricted funding in this area, universities have had to direct operating funds to urgent maintenance in the interest of responsible management.

To the extent that the suggested improvements in operating funds are realized, sufficient funds should be provided to meet this category of expenditures without any special capital allocation. So long as universities are autonomous, the responsibility for proper allocation of operating funds must lie with them.

3.0 Major Maintenance, Renovations and Alterations

The second category of capital expenditures covers both the maintenance of the fabric of the building and alterations required because of changes in instructional or research programs. A number of studies have concluded that an allowance of between 1.33% and 1.5% of the current value of the capital stock should be set aside on a yearly basis to provide for these capital expenditures.* It might be noted in passing that such an allowance is considerably less than the depreciation allowances provided by industry for their capital plant.

The current value of the Ontario universities physical plant is estimated at $3.5 billion which would suggest that somewhere between $46.5 and $52.5 million should be available yearly for maintenance of the fabric and alterations to meet changing program needs. Over the past five years (1979-80 to 1983-84), the Ministry of Colleges and Universities has provided between $12.2 million and $14.3 million in capital grants. Of these amounts, anywhere between $1.8 million and $4.6 million have been devoted to new construction — either replacement space or added space — which we have placed in the third category. This leaves a balance of $10 million which has been devoted to major maintenance, renovations and alterations.

Phase I financing calls for a further amount of $10 million annually to be made available for additional capital expenditures. Coupled with the existing $10 million, this would provide $20 million of the estimated annual need, leaving some $25 to $30 million to be found annually as part of Phase II financing.

4.0 Additions to Capital Stock and Building Replacement

The marked increase in enrolment (37%) since the capital freeze of 1972 has meant that the system as a whole has a shortfall in space which hampers both the instructional and research programs. The extent of this shortfall varies from institution to institution and the nature of the shortfall (by type of space) is influenced by the change of program mix that has occurred over time. The revised space standards suggested in the COU "Building Blocks" are based on 1976 data. Since that time the mix of programs and the role of universities have been changing. In order to determine the extent of the space shortage it is suggested that a joint committee composed of representatives from the Ministry, COU and the IMB be formed to establish new space standards. Such standards could be used not only to determine space needs but also to serve as a guide to allocation among the universities.

Until such needs can be determined more precisely, it is estimated that at least $20 to $30 million per year is required for replacement space or additions to capital plant. At first sight the average annual

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*"Building Life Costs" Vol. 5. COU Building Blocks, November 1973.
"Cost Differential Study for the State Board of Higher Education." McKie-Berger-Mansueto Inc., Illinois. May 1971.
"A Funding Model for Building Renewal." *Planning for Higher Education.* Vol. 9, #3, Spring 1981.

amounts of approximately $2.5 million made available by MCU would appear to be woefully inadequate. While this might be true for the first years of the quinquennium, the advent of the BILD program has substantially altered the situation. The amount of $18.55 million in grants from BILD for the 1983-85 period is providing $14 million or roughly $5 million per year for replacement or new space, while the $45 million grant announced in 1984 is providing a further $10 to $15 million per year. In total then somewhere between $17.5 and $22.5 million per year is being provided.

5.0 Equipment Replacement

A number of briefs received by the Commission both from the private sector and from the universities emphasized the obsolescence of equipment used in instructional (and in some cases research) laboratories. Certainly examination of the operating expenditures of universities indicates a reduction in the equipment expenditures per capita over the past decade. The matter is further complicated by the fact that a large percentage of equipment is obtained from awards by the granting councils.

Nonetheless, whether one relates these expenditures to student numbers, faculty numbers, capital expenditures or to past studies such as CFRUO, it would appear that additional expenditures are required. It is recommended that $25 million per annum be made available in earmarked funds to be used for both equipment and library acquisitions.

6.0 Conclusions

In summary, provided the recommended funding proposals are adopted and provided an adequate substitute for the BILD funds is found, then two of our four categories — minor repairs and furnishings replacement and maintenance and the provision of new and replacement space are adequately funded.

The problem areas are the provision of funds for major maintenance, renovations and alterations and the replacement of instructional and research equipment. It is estimated that for the first of these categories, an additional $26 million a year should be provided in Phase II, in addition to the existing funding and the supplementary $10 million of Phase I. In the case of equipment and library acquisitions, an annual amount of $25 million should be made available.

UNIVERSITY CAPACITY TO SUPPORT RESEARCH

In what follows, three tables show for Canada, Ontario, and Canada excluding Ontario, an index which reflects the universities' capacity to support research. This information was brought to the Commission's attention by NSERC. The data indicate the financing constraints to which universities have had to accommodate since 1970-71. Lest it be thought that the choice of 1970-71 is particularly favourable to universities, it should be noted that if 1965-66 were chosen as the base year similar results are obtained.

The derivation of the index is extremely simple. Total university expenditures, excluding ancillary enterprises, were deflated by the GNP price index, and indexed on 1970-71 = 100. A similar procedure was followed for sponsored university R&D expenditures. The index is obtained as follows: for research the deflated total expenditures are divided by the deflated expenditures on sponsored R&D. The source of the data was Statistics Canada, "University Financial Trend Analysis," August, 1984.

It will be seen that Ontario universities have fared worse than the remainder of the country over this particular period.

TABLE 1
(CANADA)

	Total Univ. Expenditures	Total Sponsored R&D	Univ. Capacity to Support Sponsored R&D
1965-66	51.3	47.0	109.1
1970-71	100.0	100.0	100.0
1975-76	92.5	101.2	91.4
1976-77	93.3	107.0	87.2
1977-78	99.3	117.8	84.3
1978-79	97.9	122.4	80.0
1979-80	95.8	122.4	78.3
1980-81	98.2	124.0	79.2
1981-82	100.9	136.7	73.8
1982-83	108.8	148.8	73.1
1983-84	108.5	n/a	n/a

(Index, 1970-71 = 100)

TABLE 2
(ONTARIO)

	Total Univ. Expenditures	Total Sponsored R&D	Univ. Capacity to Support Sponsored R&D
1965-66	46.3	45.2	101.8
1970-71	100.0	100.0	100.0
1975-76	77.7	93.0	83.5
1976-77	80.4	94.5	85.1
1977-78	82.8	101.6	81.5
1978-79	78.4	107.3	73.1
1979-80	75.1	107.3	70.0
1980-81	76.4	112.0	68.2
1981-82	78.5	125.8	62.4
1982-83	86.2	141.7	60.8
1983-84	85.5	n/a	n/a

(Index, 1970-71 = 100)

TABLE 3
CANADA (EXCLUDING ONTARIO)

	Total Univ. Expenditures	Total Sponsored R&D	Univ. Capacity to Support Sponsored R&D
1965-66	56.9	48.4	117.6
1970-71	100.0	100.0	100.0
1975-76	104.6	107.8	97.0
1976-77	103.8	117.0	88.7
1977-78	112.8	130.8	86.2
1978-79	113.8	134.6	84.5
1979-80	112.7	134.6	83.7
1980-81	116.0	133.6	86.8
1981-82	119.2	145.3	82.0
1982-83	127.1	154.6	82.2
1983-84	127.3	n/a	n/a

(Index, 1970-71 = 100)

LIST OF BRIEFS AND PUBLICATIONS

During the hearings across the Province, the Commission accepted a large number of oral presentations from individual members of university faculties and governing boards, from students and from interested members of the local communities. We also received many communications of an informal kind, offering personal observations and advice. The list which follows includes those written submissions which are considered to be in the public domain.

UNIVERSITIES AND COLLEGES

Brock University
Carleton University
Collège Dominicain
University of Guelph
Lakehead University
Laurentian University
Laurentian University: Algoma College Board of Trustees
Laurentian University: Collège Universitaire de Hearst
Laurentian University: Huntington University
Laurentian University: Nipissing University College
McMaster University
Ontario College of Art
Ontario Institute for Studies in Education
University of Ottawa
University of Ottawa: St. Paul University
Queen's University
Ryerson Polytechnical Institute
University of Toronto
Trent University
University of Waterloo
University of Waterloo: University of St. Jerome's College
University of Western Ontario
Wilfrid Laurier University
University of Windsor
University of Windsor: Iona College
York University

UNIVERSITY-RELATED ORGANIZATIONS

Association des Départements d'Etudes Françaises des Universités de l'Ontario
Canadian Association of University Schools of Nursing
Canadian Association of University Teachers
Canadian Federation of Students — Ontario
Canadian Federation of University Women (Ontario Council)
Canadian Organization of Part-Time University Students
Carleton University Academic Staff Association
Carleton University Alumni Association
Carleton University Students' Association
Churches' Council on Theological Education in Canada
Committee of Ontario Deans of Engineering
Committee of Ontario University Music Administrators
Council of Ontario Universities
Departments of Physiology, Ontario Faculties of Medicine
University of Guelph Central Student Association
University of Guelph Graduate Student Association
University of Guelph Student Federation of the College of Arts
Laurentian University, Northern Students Committee
Laurentian University Alumni Association
Laurentian University, Students' General Association
McMaster Students Union Inc.
Media Directors' Group of Ontario Universities

Ontario Association of Student Financial Aid Administrators
Ontario Chairmen of Departments of Philosophy
Ontario College of Art, Students' Administrative Council
Ontario Confederation of University Faculty Associations
Ontario Council for University Continuing Education
Ontario Graduate Association
Ontario Institute for Studies in Education, Graduate Students Association
Ontario Public Interest Research Group
University of Ottawa, Department of Philosophy
University of Ottawa, Féderation des Etudiants
Queen's University Alma Mater Society
Queen's University, Association of Women Teaching at Queen's
Queen's University Faculty Association
Queen's University Department of Mining Engineering
Queen's University School of Business
Ryerson Polytechnical Institute, Continuing Education Students' Association
Ryerson Polytechnical Institute, Students' Union
University of Toronto Association of Part-Time Undergraduate Students
University of Toronto Engineering Society
University of Toronto Faculty Association
University of Toronto Staff Association
University of Toronto Students' Administration Council
Trent University Alumni Association
Trent University Faculty Association
Trent University Department of Philosophy
University of Waterloo Advisory Council
University of Waterloo Graduate Student Association
University of Western Ontario Alumni Association
University of Western Ontario Professional and Managerial Association
University of Western Ontario Society of Graduate Students
University of Western Ontario Staff Association
University of Western Ontario University Students' Council
University of Western Ontario, Western's Caucus on Women's Issues
Wilfrid Laurier University Students Union
University of Windsor Faculty of Law
University of Windsor Graduate Students Society
University of Windsor Organization of Part-Time Students
York University Alumni Association
York University Faculty Association
York University Students

OTHER EDUCATIONAL ORGANIZATIONS

Canadian Memorial Chiropractic College
Canadian Parents for French (Ontario)
CFS-Ontario, Ontario College Commission
CJRT-FM
Council for Franco-Ontarian Education
Conseil des Organismes Francophones du Toronto Métropolitain
Institute of Chartered Accountants of Ontario
Kingston Collegiate and Vocational Institute — School Association
Lakehead Branch, Ontario Teachers' Federation (Teacher Education Committee)
Ontario Association for Continuing Education
Ontario Association of Education Administrative Officials
Ontario English Catholic Teachers' Association
Ontario School Counsellors' Association
Ontario Speech and Hearing Association
Ontario Secondary School Teachers' Federation
Ontario Teachers' Federation
Registered Nurses Association of Ontario
TV Ontario

BUSINESS, CIVIC AND LABOUR ORGANIZATIONS

Association of Professional Engineers of Ontario
Canadian Chemical Producers' Association
Canadian Manufacturers' Association
Canadian Standards Association
Canadian Union of Educational Workers
Canadian Union of Public Employees, Ontario Division
Canadian Union of Public Employees, Local 1230
Canadian Union of Public Employees, Local 1281
Canadian Union of Public Employees, Local 2323, Carleton University Student Assistants
City of Ottawa (Mayor Marion Dewar)
City of Windsor (Mayor Elizabeth Kishkon)
Commercial and Industrial Development Corporation of Ottawa-Carleton
Corporation of the City of Peterborough
Electrical and Electronic Manufacturers Association
IDEA Corporation
Infonorth Computing Inc.
Labour Council of Metropolitan Toronto
Morwijk Enterprises
Ontario Chamber of Commerce
Ontario Federation of Labour
Ottawa and District Labour Council
Ottawa Carleton Research Institute
Peterborough County Board of Education
Thunder Bay Chamber of Commerce

OTHER GROUPS

Afrukhteh Niagara
Association for Canadian Theatre History
Canadian School of Management
Communist Party of Canada (Ontario)
Direction Jeunesse
Institute for Mystical and Spiritual Science
London Status of Women Action Group

INDIVIDUALS

Charles Abshez
J.D. Aczel
R.P. Armstrong, Trent University Board of Governors
Carl Baar, Brock University
John J.O. Berry
M.A. Bennett, University of Waterloo
Stephen Blum, York University
John Bossons, University of Toronto
William E. Brown
T. Carey
A. Chamot
Michaeline Christiansen
John Crispo, University of Toronto
Anne Innis Dagg
Kenneth M. Dodd and Randle W. Nelsen, Lakehead University
John R. Evans
Blair T. Ferguson, Ryerson Polytechnical Institute
Larry Fontana
Jim Foulds, M.P.P.
P.J. Galasso, University of Windsor
James A. Gibson, former President of Brock University
Jon K. Grant, Chairman, Trent University Board of Governors
Brian A. Green

Kenneth W. Hammond
K.A. Innanen, York University
Sid Kimel
John Kirkness, University of Toronto, Scarborough Campus
Arthur M. Kruger, Principal, Woodsworth College, University of Toronto
Bruce Livesey, Ryerson Polytechnical Institute
Agi Lukacs, University of Toronto
N.B. MacDonald
Charlotte Matthews
Ann McMillan
John R. Meyer, University of Windsor
Edmond Meyers
David T.C. Moore, Trent University Board of Governors
Paul F. Ostrowski
Richard B. Potter, Q.C.
Mahesh C. Pradhan
John R. Renaud, University of Windsor
F.J.P. Rimrott, University of Toronto
John J. Robinette, Chancellor, Trent University
David H. Scott
Peter B. Stokes
Ralph G.M. Sultan
Stephen Talmage, Carleton University
Jean Teron, Chairman, Carleton University Board of Governors
W.O. Twaits
D.E. Zaborszky, Presidential Advisory Committee on the Status of Women, Laurentian University

COMMISSION PUBLICATIONS

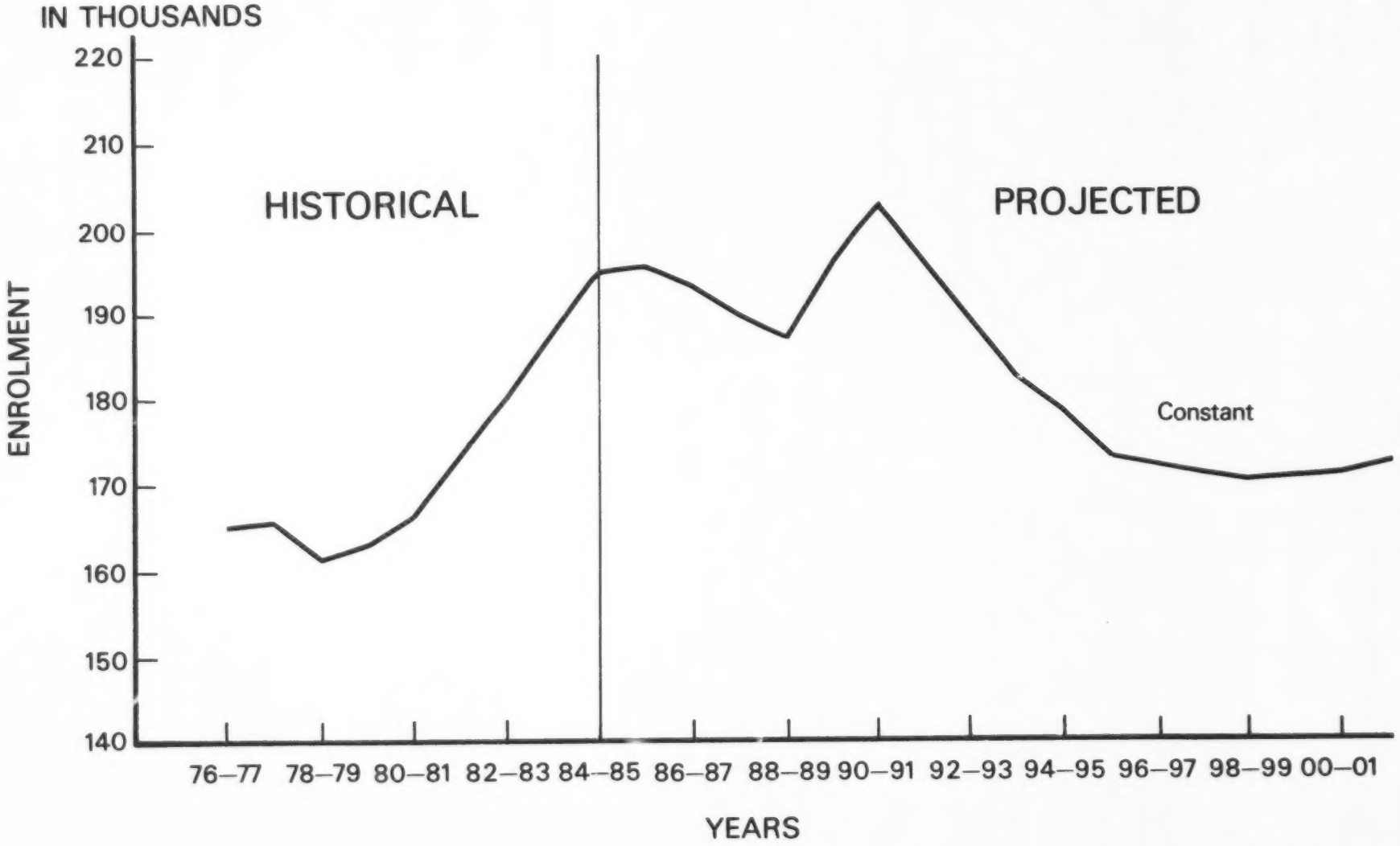
The Commission published the following special studies:

(1) *Accessibility and the Demand for University Education*, by David Stager, June 1984.

(2) *Universities and the Supply of Graduates to the Professions*, by Noah M. Meltz and David Stager, June 1984.

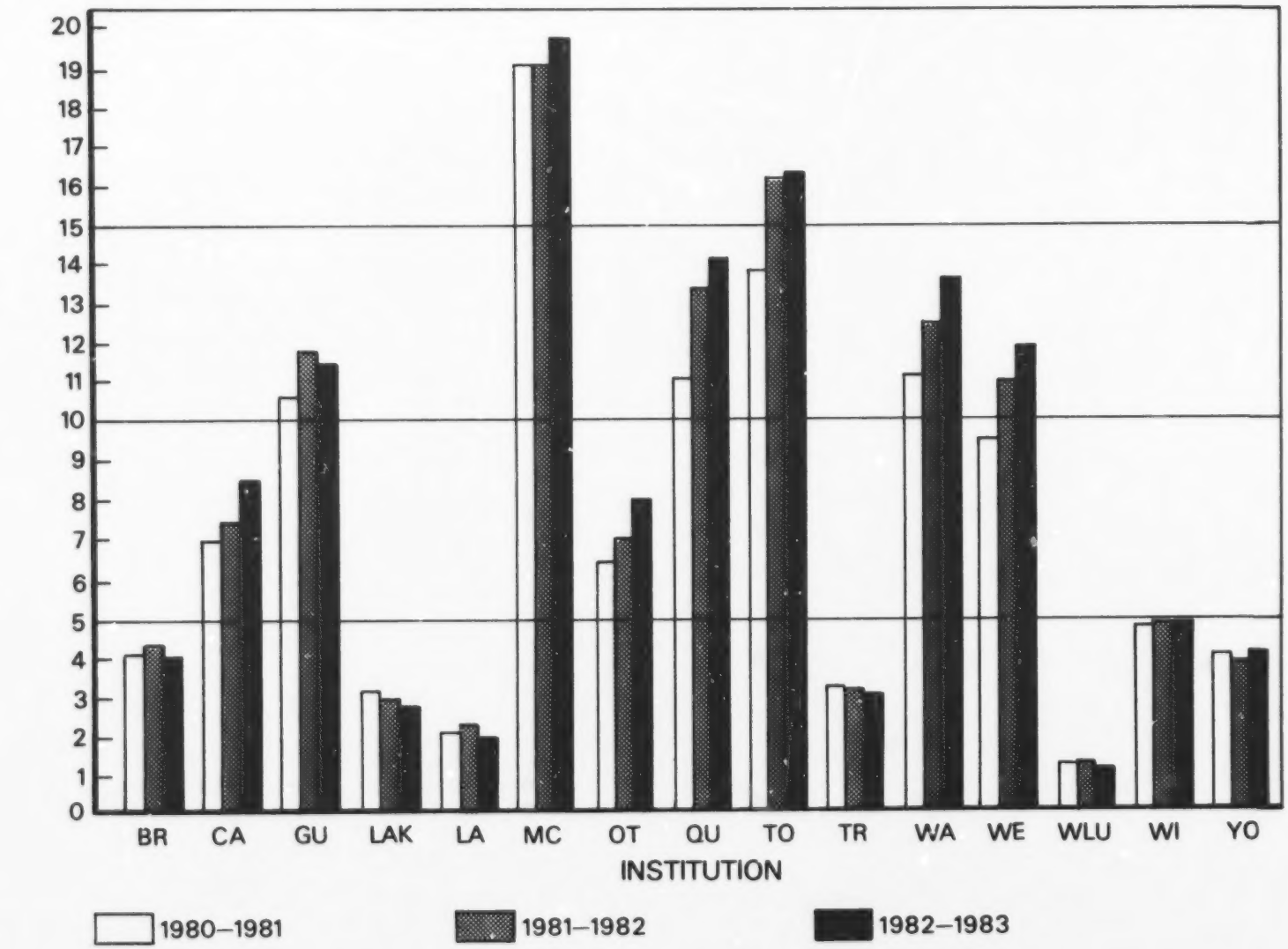
(3) *Private Support for Universities*, by Richard M. Bird and Meyer W. Bucovetsky, October 1984.

SUMMARY OF FTE ENROLMENT



AWARDS AS % OPERATING EXPENDITURES

MRC, NSERC, SSHRC



Total granting council awards were used in this graph rather than only R & D grants.